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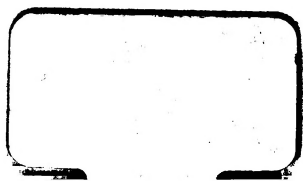
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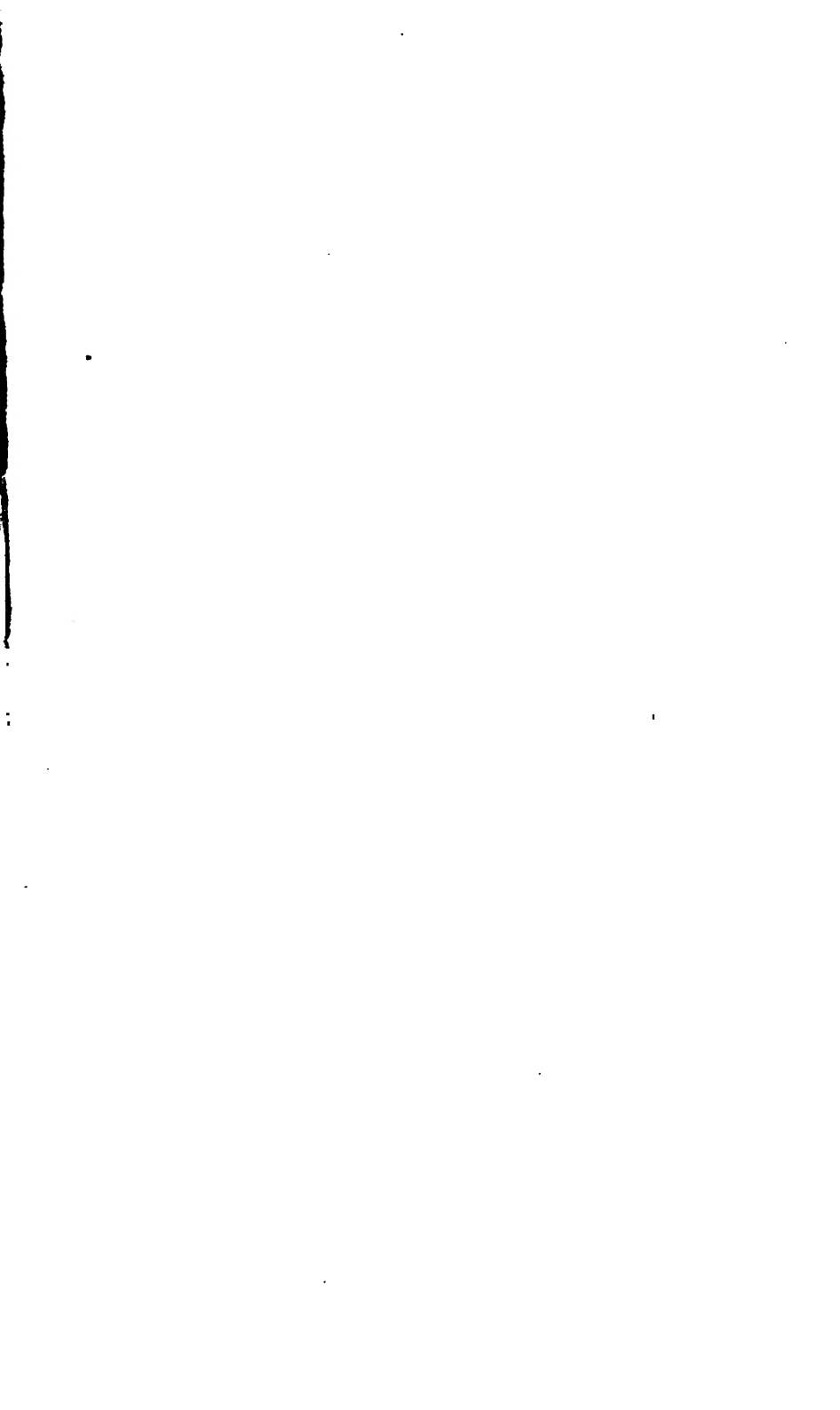
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THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

EDITED BY
ISAAC HAYS, M.D.,
SURGEON TO WILLS HOSPITAL.
FELLOW OF THE PHILADELPHIA COLLEGE OF PHYSICIANS; MEMBER OF THE
AMERICAN MEDICAL ASSOCIATION; OF THE AMERICAN PHILOSOPHICAL SOCIETY; OF THE
ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,
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The following works have been received:—

Homeopathy: its Tenets and Tendencies, Theoretical, Theological, and Therapeutical. By JAMES Y. SIMPSON, M. D., F. R. S. E., Professor of Midwifery in the University of Edinburgh, and Physician-Accoucheur to the Queen for Scotland. Third edition. Edinburgh, 1853. (From the Author.)

Contributions to Obstetric Pathology and Practice. By JAMES Y. SIMPSON, M. D., Professor of Midwifery in the University of Edinburgh. Edinburgh, 1853. (From the Author.)

Notes of some Ancient Greek Medical Vases for containing Lykion; and on the Modern Use of the same Drug in India. By JAMES Y. SIMPSON, M. D., F. R. S. E. Edinburgh, 1853. (From the Author.)

Appendix to the Treatise on the Structure, Diseases, and Injuries of the Bloodvessels. With Statistical Deductions. Being the Essay to which the Jacksonian Prize, for the year 1844, was awarded by the Royal College of Surgeons of England. By EDWARD CRISP, M. D., &c. London, 1851.

Smithsonian Contributions to Knowledge. A Flora and a Fauna within Living Animals. By JOSEPH LEIDY, M. D. (From the Author.)

The Progress of Improvement in the Treatment of Consumption and other Pulmonary and Laryngeal Diseases, and on some Remedial Means. By JAMES TURNBULL, M. D., Physician to the Liverpool Royal Infirmary, and Lecturer on Clinical Medicine to the Medical School. London: John Churchill, 1853.

Medical Jurisprudence. By ALFRED S. TAYLOR, M. D., F. R. S., Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital, etc. Third American, from the fourth London, edition. Edited with additions by EDWARD HARTSHORNE, M. D., one of the Surgeons of Wills Hospital, etc. etc. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

Transactions of the Kentucky State Medical Society, at their meeting held in Louisville on the third Wednesday of October, 1852. Louisville, 1853.

Transactions of the Medical Society of the State of New York, at its semi-annual meeting held, in June, 1852, at the City of New York, and at its annual meeting in the City of Albany, held February, 1853. Albany, 1853.

Quarterly Summary of the Transactions of the College of Physicians of Philadelphia, from February 2, to April 6, 1853, inclusive. Philadelphia, 1853.

Constitution and By-Laws of the North-Western Medical Society, together with the Proceedings of the First Annual Meeting held at Dubuque, Iowa, January 11, 1853, and the Code of Ethics of the Society. Dubuque.

Proceedings of the Medical Association of the State of Alabama, at its sixth annual meeting begun and held in the City of Selma, December 13-15, 1852. With an Appendix and list of members. Mobile, 1853.

Proceedings of the Third Annual Session of the Indiana State Medical Society, held in the City of Albany, May, 1852. New Albany, Indiana, 1852.

The Transactions of the Illinois State Medical Society, for the year 1852. Peoria, 1852.

Annual Report of the Trustees and Superintendent of the Pennsylvania State Lunatic Hospital at Harrisburg, for the year 1852. Harrisburg, 1853.

The Tenth Annual Report of the Mount Hope Institution, near Baltimore, for the year 1852. By WILLIAM H. STOKES, M. D. Baltimore, 1853.

Report of the Eastern Lunatic Asylum in the City of Williamsburg, Virginia, 1852-3. Richmond, Virginia, 1853.

Thirty-Sixth Annual Report of the state of the Asylum for the Relief of Persons deprived of their Reason. Published by direction of the contributors. Third Month, 1853. Philadelphia, 1853.

Tenth Report to the Legislature of Massachusetts, relating to the Registry and Returns of Births, Deaths, and Marriages in the Commonwealth, for the year ending December 31, 1851. By A. WALKER, Secretary to the Commonwealth. Boston, 1852.

Report of the Board of Trustees of the Massachusetts General Hospital. Presented to the Corporation at their annual meeting, January 26, 1853. Boston, 1853. (From Dr. E. Jarvis.)

Report by the City Registrar of the Births, Marriages, and Deaths in the city of Boston, for the year 1852. Boston, 1853. (From Dr. E. Jarvis.)

Elements of Health and Principles of Female Hygiene. By E. J. TILT, M. D., Senior Physician to the Harrington General Dispensary and Lying-in Charity, and to the Paddington Free Dispensary for Diseases of Women and Children. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

The Principles of Botany as exemplified in the Cryptogamia, for the Use of Schools and Colleges. By HARLAND COULTAS. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

A Treatise on General Pathology. By Dr. J. HENLE, Professor of Anat. and Phys. in Heidelberg. Translated from the German by HENRY C. PRESTON, A. M., M. D. Philadelphia: Lindsay & Blakiston. (From the Publishers.)

The Action of Medicines in the System: or, on the Mode in which Therapeutic Agents introduced into the Stomach produce their Peculiar Effects on the Animal Economy. Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1852. By FREDERICK WILLIAM HEADLAND, B. A., M. R. C. S., etc. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

A Practical Treatise on the Diseases of Children. By J. FORSYTH MEigs, M. D., Lecturer on the Practice of Medicine in the Philadelphia Medical Association, &c. &c. Second edition, revised and enlarged. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

Memoir of Isaac Parrish, M. D. Read to the College of Physicians of Philadelphia, February 2, 1853. By SAMUEL JACKSON, M. D., formerly of Northumberland. Written and printed by order of the College. Philadelphia, 1853. (From the Author.)

Elements of Chemistry for the Use of Colleges, Academies, and Schools. By M. V. REGNAULT. Illustrated by nearly seven hundred wood-cuts. Translated from the French by T. FORREST BETTON, M. D., M. A. N. S., Fellow of the College of Physicians, etc. And edited with Notes by JAMES C. BOOTH, Melter and Refiner in the United States Mint, and WILLIAM L. FABER, Metallurgist and Mining Engineer. Second edition. To which is appended a Comparative Table of French and English Weights and Measures, in two volumes. Philadelphia: Clark & Hesser, 1853. (From the Publishers.)

Materia Medica, or Pharmacology and Therapeutics. By WILLIAM TULLY, M. D. Vol. I. No. 6. Springfield, 1853. (From J. Church, M. D.)

Catalogue of Articles transmitted from British Guiana to the Exhibition of Works of Industry of all Nations in New York, 1853. Georgetown, Demarara, 1853.

An Essay on the Physical and Moral Effects of the Use of Tobacco as a Luxury. A Prize Essay. By A. H. GRIMSHAW, A. M., M. D. New York, 1853. (From the Author.)

Of the Use of Chloroform in Midwifery. By GEORGE N. BURWELL, M. D., one of the Physicians of the Buffalo Hospital. (From the Author.)

An Essay on the Unity of Disease. Read before the Alabama State Medical Association, December, 1852. Revised and corrected by the Author. Selma, 1853.

Treatment of Stricture of the Urethra by Rapid and Free Dilatation, Illustrated with Cases. By PAUL F. EVE, M. D., Professor of Surgery in the University of Nashville. Nashville, 1853.

Essay on the Sudden Coma of Typhus and Typhoid Fevers, and Typhoid Pneumonia. With Illustrative Cases. By J. LEWIS SMITH, M. D. Reprinted from the New York Journal of Medicine. New York, 1853. (From the Author.)

Galvanism; its Application as a Remedial Agent. By C. H. CLEVELAND, M. D. New York, 1853.

Professional Reminiscences of Foreign Travel. By W. CHANNING, M. D. (From the Author.)

Medical Education; the Annual Discourse before the Philadelphia County Medical Society. Delivered December 29, 1853. By the President, SAMUEL JACKSON, M. D., formerly of Northumberland. Published by the Society. Philadelphia, 1853. (From the Author.)

Valedictory Address to the Graduates of the Philadelphia College of Pharmacy. Delivered in the Musical Fund Hall, March 31, 1853. By ROBERT BRIDGES, M. D. With a List of the Graduates. Published by the Graduating Class. Philadelphia, 1853.

Valedictory Address to the Graduating Class of Rush Medical College, for Session 1852-53. By N. S. DAVIS, M. D., Professor of Pathology, Practice of Medicine, and Clinical Medicine. Chicago, 1853.

Address to the Graduates of the Medical Department of Hampden Sydney College at the Commencement, March 4, 1853. By Prof. MAUPIN. Published by Request of the Graduates. Richmond, 1853.

The Trials and Rewards of the Medical Profession: An Introductory Lecture delivered at the Opening of the First Session of the Miami Medical College, at Cincinnati, October 3, 1852. By R. D. MUSSEY, M. D., Professor of Operative Surgery in said College. Cincinnati, 1853.

Character. A Valedictory Address to the Graduating Class of the Memphis Medical College. Delivered by H. V. WOOTEN, M. D., Professor of Principles and Practice of Medicine. At the Annual Commencement, February 26, 1853. Memphis, 1853.

The following Journals have been received in exchange:—

Annales Médico-Psychologiques. Par les Docteurs BAILLARGER, BRIERRE DE BOISMONT, et CERISE. January, April, 1853.

Les Moniteur des Hôpitaux Journal des Progres de la Médecine et de la Chirurgie Pratiques. Rédacteur en Chef, M. H. DE CASTELNAU. Tom. i. Nos. 45-68. Gazette Médicale de Paris. Nos. 4, 5, 6, 7, 8, 9, 10, 11, 12. 1853.

Revue de Thérapeutique Médico-Chirurgicale. Publié par le Dr. A. MARTIN-LAUZER. February, March, 1853.

The British and Foreign Medico-Chirurgical Review. April, 1853.

The Journal of Psychological Medicine and Mental Pathology. Edited by FORBES WINSLOW, M. D. April, 1853.

Monthly Journal of Medical Science. Conducted by Professors CHRISTISON, SYME, SIMPSON, BENNETT, and Drs. MACLAGAN and ROBERTSON. April, May, 1853.

Association Medical Journal. Edited by JOHN ROSE CORMACK, M. D. Nos. 10, 11, 12, 13, 14, 15, 16, 17.

The Dublin Quarterly Journal of Medical Science. May, 1853.

The Medical Times and Gazette. April, May, June, 1853.

Dublin Medical Press. April, May, June, 1853.

The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica. April, 1853.

The Stethoscope and Virginia Medical Gazette. Edited by P. CLAIRBORN GOOCH, A. M., M. D. April, May, June, 1853.

The Medical Examiner. Edited by Drs. F. G. SMITH and J. B. BIDDLE. April, May, June, 1853.

The Charleston Medical Journal and Review. Edited and published by Drs. J. CAIN, and F. PEYRE PORCHER. March, May, 1853.

The Virginia Medical and Surgical Journal. Edited by GEO. A. OTIS, M. D., and H. L. THOMAS, M. D. April, May, June, 1853.

Buffalo Medical Journal. Edited by A. FLINT, M. D. April, May, June, 1853.

Southern Medical and Surgical Journal. Edited by L. A. DUGAS, M. D. April, May, June, 1853.

The New Jersey Medical Reporter and Transactions of the New Jersey Medical Society. Edited by JOSEPH PARRISH, M. D. April, 1853.

The New Orleans Monthly Medical Register. Edited by FOSTER AXSON, M. D. April, June, 1853.

St. Louis Medical and Surgical Journal. Edited by Drs. M. L. LINTON, and Wm. M. MCPHETERS. March, May, 1853.

American Journal of Pharmacy. Published by Authority of the Philadelphia College of Pharmacy. Edited by WILLIAM PROCTER, JR., Professor of Pharmacy in the Philadelphia College of Pharmacy. Vol. I. No. 3.

The New York Journal of Medicine. Edited by S. S. PURPLE, M. D., and S. SMITH, M. D. New York, May, 1853.

The American Journal of Science and Arts. Conducted by Professors B. SILLIMAN, B. SILLIMAN, JR., and JAMES D. DANA, aided by Dr. GIBBS, and Prof. GRAY. New Haven, May, 1853.

The New Hampshire Journal of Medicine. EDWARD H. PARKER, A. M., M. D., Editor and Proprietor of Vol. III. Concord. March, April, May, 1853.

The New York Medical Gazette and Journal of Health. Edited by D. MEREDITH REESE, M. D., L. L. D., New York. April, May, June, 1853.

The American Psychological Journal. Devoted chiefly to the Elucidation of Mental Pathology and the Medical Jurisprudence of Insanity. Conducted by EDWARD MEAD, M. D., Physician to the Cincinnati Retreat for the Insane, &c. Printed at the Hygeia Press, Cincinnati Retreat. January, 1853.

The North-Western Medical and Surgical Journal. Edited by W. B. HERICK, M. D., Professor of Anatomy in Rush Medical College, &c., assisted by H. A. JOHNSON, M. D., Chicago. March, April, 1853.

The Medical Recorder. Edited by A. P. MERRILL, M. D., Professor of Materia Medica and Therapeutics, and T. QUINTARD, M. D., Professor of Physical and Pathological Anatomy, Memphis. March, May, 1853.

The New York Medical Times. H. D. BULKLEY, M. D., Physician to the New York Hospital, etc. etc., Editor and Proprietor. April, May, June, 1853.

The New York Journal of Pharmacy. Edited by B. W. MCCREADY, M. D. April, May, 1853.

The Western Lancet. Edited by L. M. LAWSON, M. D., and S. HOOD, M. D. April, May, 1853.

Transylvania Medical Journal. Edited by L. J. FRAZER, M. D. April, May, 1853.

The New Orleans Medical and Surgical Journal. Edited by A. HESTER, M. D. May, 1853.

The Western Journal of Medicine and Surgery. Edited by L. P. YANDELL, M. D., and T. S. BELL, M. D. March, April, May, 1853.

The Southern Journal of Medicine and Physical Sciences. Edited by Drs. KING, JONES, RAMSEY, CURRY, WOOD, ARCHISON, and SCRUGGS. May, 1853.


The American Journal of Dental Science. Edited by CHAPIN A. HARRIS, M. D., D. D. S., and ALFRED A. BLANDY, M. D., D. D. S. April, 1853.

The East Tennessee Record of Medicine and Surgery. Edited by FRANK A. RAMSEY, A. M., M. D. May, 1853.

Annals of Science. Conducted by HAMILTON L. SMITH, A. M. April, May, 1853.

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- XII. Transactions of the Medical Society of the State of New York, at its Semi-Annual Meeting, held in June, 1852, at the City of New York; and at its Annual Meeting in the City of Albany, held February, 1853. Albany, 1853: 8vo. pp. 352.
- Transactions of the Kentucky State Medical Society, at their Meeting, held in Louisville on the Third Wednesday of October, 1852. Louisville, 1853: 8vo. pp. 333.
- Transactions of the Medical Association of Southern Central New York, at the Annual Meeting, held at Owego, June, 1852. Auburn, 1852: 8vo. pp. 94.
- The Transactions of the Illinois State Medical Society, for the Year 1852. Peoria, 1852: 8vo. pp. 94.
- The Transactions of the Medical Association of the State of Missouri, at its Second Annual Meeting, St. Louis, April 19, 20, and 21, 1852. St. Louis, 1852: 8vo. pp. 116.
- Proceedings of the Third Annual Meeting of the Indiana State Medical Society, held in the City of New Albany, May, 1852. New Albany, 1852: 8vo. pp. 79.
- Transactions of the Twentieth-Ninth Annual Meeting of the Medical Society of Virginia, &c. Richmond, 1852: 8vo. pp. 62.
- Transactions of the Medical Society of the State of North Carolina, at its Third Annual Meeting in Wilmington, N. C., May, 1852. Wilmington, 1852: 8vo. pp. 98.
- The Transactions of the Third Annual Meeting of the Medical Society of the State of Georgia, held in the City of Augusta, April, 1852. Penfield, 1852: 8vo. pp. 100.
- Proceedings of the Medical Association of the State of Alabama, at its Sixth Annual Session, begun and held in the City of Selma, December 13-15, 1852. Mobile, 1853: 8vo. pp. 166. - 162
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- XV. Medical Jurisprudence. By Alfred S. Taylor, M. D., F. R. S., &c. Third American, from the fourth London, edition. Edited, with additions, by Edward Hartshorne, M. D., &c. &c. Philadelphia, Blanchard & Lea, 1853: 8vo. pp. 621, including glossary and index. - 178
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THE
AMERICAN JOURNAL
OF THE MEDICAL SCIENCES
FOR JULY 1853.

ART. I.—*On Displacements of the Non-gravid Uterus; their Local and Constitutional Effects, and best Modes of Treatment.* By J. F. PEEBLES, M. D., of Petersburg, Virginia. The Dissertation to which the Fiske Fund Prize was awarded.¹ (Published by Request of the Rhode Island Medical Society.)

Varieties.—All malpositions of the uterus may be classified under two general heads—

First. Displacement without deviation from the normal direction of the organ with regard to the natural course of the vaginal outlet.

Second. Displacement accompanied by deviation of the natural axis of the organ with regard to the normal course of the vaginal outlet.

Obviously, in the first, displacement can occur only in one way, viz. : in the course of the vaginal curve downwards and forwards, constituting prolapsus in its various degrees. In the second class, the deviation may take place in different directions, and may also occur under different conditions of the organ. This

¹ The Trustees of the Fiske Fund, at the annual meeting of the Rhode Island Medical Society, held at Providence, on the 21st of June, 1852, announced that they had awarded to the author of the dissertation, bearing the motto "*Audi alteram partem*," the premium of fifty dollars, offered by them for the best dissertation on the following, viz. : "*Displacements of the Uterus; their Local and Constitutional Effects; and best Modes of Treatment.*"

Upon breaking the seal of the accompanying packet, they ascertained the author to be J. F. Peebles, M. D., of Petersburg, Virginia.

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Secretary R. I. Med. Soc.

NO. LI.—JULY 1853.

renders it necessary to subdivide this class into two distinct varieties. In the first of these the organ is simply turned away from the natural direction of its long diameter, and this constitutes *version*. In the second, its configuration is altered at the same time, it being curved like a retort, and this constitutes *flexion*. The second class of uterine displacements, including both version and flexion are described as occurring mainly in two directions, anteriorly and posteriorly, and are known as anteversion, retroversion, anteflexion, and retroflexion.

The consideration of the whole subject will be comprised in three divisions: 1st. The natural history, diagnosis, and local symptoms of the different forms of displacement. 2d. The general symptoms, or constitutional effects, common to all forms of uterine displacement. 3d. The treatment.

Prolapsus.

This is by far the most common form of uterine displacement. Good descriptions of the disease are to be found amongst the writings of the early fathers of medicine. The prevalence of the malady has not decreased with the progress of civilization; on the contrary, it is believed by most writers to have increased in our day.

It cannot be said to be confined to any particular class of women. In its effects, however, there is a marked variation according to the class of its victims. In the labouring woman it scarcely ever induces other than local suffering; whilst in the refined and luxurious it is almost always attended by that train of obstinate and severe constitutional symptoms, which we shall hereafter detail, as being the result of uterine displacement. Nor can it be referred to women of any particular age or condition in life, as it regards virginity, matrimony, or childbearing. It is true that childbearing women are most liable to it, and, particularly at that period of life included between the time of marriage and the cessation of the catamenia, the childbearing period. Yet virgins, and very young girls occasionally, have prolapsus. It is doubted whether the disease can occur before the menstrual period except as a malformation, or as the result of pelvic or abdominal disease acting mechanically; since the organ is developed in the abdominal cavity, having to descend with the foetal growth, and does not reach its position and assume its pyriform shape until about the age of puberty. For somewhat similar reasons it is not likely to be developed, as an independent affection, in old women. It exists often in such, but always as a chronic complaint, having an origin in early life. In the aged, the womb returns to an approximation of its primitive shape. It becomes cylindrical, diminishes in volume, and increases in density, whilst the vagina contracts and loses all its elasticity.

Thin women, and those of the lymphatic temperament, are thought by many writers to be the most liable to it. I have seen many obstinate cases in short fat women of sanguineous temperament. The truth is, it may happen to all women between the periods of life just stated. This is easily seen when

we reflect how slight is the support of the organ, and how numerous are the accidents, from both within and without, which tend to produce prolapsus.

Nature of Prolapsus.—Descent of the womb may be partial or complete. Both the symptoms and the treatment of prolapsus uteri being somewhat modified by the stage of the organ's descent, it has been found expedient and necessary by authors to describe it as existing in three varieties.

The term prolapsus is employed by writers to signify that the falling of the womb has not extended beyond the os externum. When it protrudes beyond that orifice, the term procidentia is used. Retaining these general terms in that signification, we shall prefer to describe the displacement in the first, second, and third degrees.

In the first degree, the normal axis of the womb, with regard to the superior pelvic strait being maintained, the organ descends through the middle of the vagina downwards until its cervix rests on the posterior wall of the vagina. This movement involves widening of the upper third of the vagina, and some shortening of the whole tube. This latter result is due to folding down of the walls of the vagina upon each other in such a manner that a puncture through the middle of the cervix would wound them in two distinct spots both anteriorly and posteriorly.

In the second degree, in describing the curved line which connects the superior and inferior straits of the pelvis, the axis of the womb changes to correspond with that of the inferior strait as it glides downward to occupy the vagina, reaching its outlet. The long diameter of the organ becomes nearly horizontal, its fundus being directed towards the lower third of the sacrum, whilst its cervix looks forward under the pubic arch. The situation of the womb is influenced to a considerable extent by position; in standing, for instance, it becomes more vertical, making its cervix look directly downward. It is also modified by the shape of the pelvis, and the length and curvature of the vagina. In persons in whom the vagina is short and straight, congenitally, its descent is almost vertical. In this degree of prolapsus the vaginal walls are completely reflected on themselves, giving the entire uterus a double covering.

The third degree of prolapsus is the complete protrusion of the organ. When this occurs, the vagina is turned completely inside out; the womb may hang to the full length of that tube, sometimes reaching midway the thighs, and having a single covering. That portion of the vacuum created in the pelvis behind it, which is not filled by the rectum and bladder, contains the small intestines and their appendages; whilst without, the natural coating of the procidented womb and vagina becomes so changed as to acquire the appearance of the external skin. Procidentia of the womb exists in two varieties, the reducible and irreducible.

Mechanism and Causes.—The healthy uterus is so lightly attached within the pelvis of a human female, that the surgeon may, without preparation, seize and bring its cervix within the range of his operating-knife. Still,

when in a normal state, it has ample power to maintain its erect position, amid all the varying circumstances and positions of the woman. The sources of this power are various. In regard to the cavity in which it is placed, constituting a part of its contents, the non-gravid uterus appears as a small inverted cone, located near the apex of a large inverted cone. The contractile diaphragm is the base of the latter, the muscles of the perineum its apex, whilst more than two-thirds of its lateral walls are formed of the elastic muscles of the abdomen. By this arrangement the forces to which it is exposed, likely otherwise to displace it, are so distributed, as, in fact, it would appear, to aid in poising it in the pelvis. All forces from above rebound from the elastic perineum, and the womb, by its pyriform shape, thus presenting an appropriate and more extensive surface for their reception, receives them in a manner admirably tending to its support and steadiness. It cannot be shown that the ligaments of the uterus, or its attachments to the rectum and bladder, have any positive influence in its support against prolapsion.

It is, then, the loss of healthy power in the apex of this great abdominal cone which creates prolapsus uteri. When the muscles of the perineum cease to rebound, then the organ becomes a prey to the forces operating on it from above. Before proceeding farther, the intervening connection of the uterus, with the point where these forces are felt, must be examined. This is the vagina, through which organ it must pass in its descent. Though described as a tube, the vagina, in the healthy state, by the coadaptation of all its sides, presents a solid column beneath the womb. This power of thus coalescing it must lose, therefore, before the womb can be prolapsed. This relaxation may be created by the want of resistance of the perineum. When its muscles no longer antagonize the diaphragm, the womb is pushed on the vagina steadily, until it, at length, yields. In this case relaxation ascends from the perineum to the vagina. But exactly the reverse may, and does, occur. Disease of the womb, and other causes, may relax the vagina first; which relaxation is finally communicated to the perineum and its adjacent muscles. Obviously, in the latter instances the result is facilitated by the shape of the vagina. Women who have a short and straight vagina are more liable than others to prolapsus, and created in this way. Such women, if married, are the frequent subjects of disease of the cervix, from, I think, mechanical contact arising in coitus; which disease, by its influence on the general health, and otherwise, induces prolapsus in the manner just described. Women in whom the vagina is long and curved are protected against the production of prolapsus in this way, and are in general but little, if at all, liable to that form of displacement. The history of prolapsus uteri sustains this view of the mechanism of the displacement. It is in the exercise of its peculiar function, particularly in parturition, that these subjacent supports of the womb are injured and weakened; and childbearing, therefore, is the most prolific source of prolapsus uteri. Statistics prove that a large majority of all the cases of prolapsus originates in labour. Many sufferers from the disease retain re-

membrane of an exact period during childbirth when they believe the injury occurred; and such always refer the sensation to the perineal and anal regions.

Next to parturition, abortion most frequently lays the foundation of the disease, and then the menstrual period.

The starting-point of the displacement is often created by dancing, falls on the perineum, leaping, &c., during the catamenial flow. Women with a shallow and capacious pelvis, and a short and straight vagina, may have prolapsus very easily excited by any cause likely to suddenly depress the diaphragm; particularly when predisposed by a recent labour, abortion, or by menstruation; as violent laughter, or protracted fits of coughing.

Certain employments act as exciting causes of prolapsus. When the disease occurs in virgins, it is excited by employment very frequently. They are forced to maintain the erect posture, and at the same time exercise the arms, by lifting heavy weights, for instance, in such a manner as to force down the diaphragm with sudden violence. Market women, who bear heavy weights, are frequent victims to the disease.

These views of its mechanism so clearly indicate what are likely to be the predisposing and exciting causes of the disease, that it is deemed unnecessary farther to specify them; and I therefore pass on to the consideration of what may be called the organic cause of prolapsus uteri.

When speaking of its mechanism, I alluded to the manner in which it is caused. It was then said that the relaxation of the vagina and perineum, without which no prolapsus could occur, sometimes began above, in the uterus itself, and descended. The disease in the uterus creating such a state is chronic inflammation, hypertrophy, and ulceration of its cervix and os. It has been explained that the increased weight of the cervix in these cases pulls the os downwards. I am rather inclined to attribute the influence of the diseased cervix in creating prolapsus in this way to the debilitating effect it has on the vagina first, and then through the general system on the perineum. The swollen, inflamed, and ulcerated cervix debilitates locally and generally, and this creates its descent. In such cases, however, the prolapsus is always only in the first degree. The swollen cervix merely descends through the upper third of the vagina, and when it reaches the posterior wall of the organ it stops. Such displacement, if continued, is then followed by two opposite states; the cervix is turned backwards or retroverted, and the body of the organ is thrown forward. Dr. Bennet very plausibly attributes the arrest of the organ at this point to a lodgement against the lower third of the sacrum. I believe, in cases favourable to its production, that these displacements would in time go on to complete anteversion of the organ. The forces from above, by operating on the fundus of the womb, thrust it downwards and forwards; and if there was the requisite curvature of the sacrum, I think they would ultimately lift the cervix and expel it into the hollow of that bone, when the whole organ would become horizontal. As it is, however, in conformity with

the most usual state of the female pelvis, there is only produced a slight exaggeration of the natural inclination of the uterus, and, finally, a retroversion of its cervix. This is a very common form of prolapsus, and is important, inasmuch as it requires special treatment, differing from the other varieties of the disease.

The womb may also be forced down by the development of disease in it, or in its adjacent parts. Scirrhus, polypus, and fibrous tumours are the diseases of the womb most usually associated with a prolapsus, which they create. Ovarian and other abdominal tumours, exostosis, and other diseases of the pelvic bones are the morbid states of its environs, which may create prolapsus of the womb.

Local Symptoms.—It will be entirely unnecessary to point out the local symptoms, which are the result of prolapsus of the uterus in its second and third degrees. An exact history of them can be of no advantage to the practitioner, inasmuch as the disease giving them origin is apparent—its existence is already known to the woman herself. With regard to prolapsus in the first degree, the case is different. This may not be suspected by the patient on the one hand, when it exists; whilst, on the other, she may labour under an impression that she has such a disease, when it does not exist. Weak and relaxed women, whether married or single, are subject to morbid sensations within the pelvis, which simulate prolapsus uteri, and which are speedily removed by rest and tonic treatment. It often becomes a question with the practitioner as to the propriety of making vaginal explorations in such cases. In consequence of this, and the delicate nature of the disease, this form of prolapsus is allowed, in a large majority of cases, to run on for an indefinite length of time. The general or constitutional symptoms, hereafter to be described, frequently beginning with it, are the most prominent in such cases. It is for their relief that advice is most usually sought. In such a state of things the history of the local symptoms becomes important. Then it will appear that there are pelvic sensations, which, upon inquiry, the patient will express. These generally consist of a sense of weight in the fundament, pain and weakness in the back, a feeling of heat and tension about the uterus, dragging sensations in the groins, bearing-down pains, tenesmus, and vesical irritation.

All such symptoms are aggravated by exertion, excitement, and by the approach of the catamenial flow.

The functions of the uterus are perverted. The menstruation is disordered, variously; it is often profuse, and too frequent, or it may be very scanty and too seldom. In bad cases, accompanied by much ulceration and hypertrophy, there will be sterility. A great many of these cases have their beginning in labour. The woman, after bearing many children in quick succession, will suddenly stop, and date the origin of all her symptoms from her last confinement.

Leucorrhœa is a constant symptom, and is most frequently of a yellow tinge.

Diagnosis.—The diagnosis of prolapsus is not difficult. The difficulties likely to arise will so readily suggest themselves to the practitioner, that it is not deemed necessary to prolong our article by specifying them. The means to be used are the touch and the vaginal speculum; the latter instrument being only necessary in the investigation of prolapsus in the first degree.

Retroversion and Anteversion.

Nature and History.—It is preferred to describe these two forms of uterine displacement together. By so doing, nothing will be lost in perspicuity, whilst much will be gained in an avoidance of useless repetition.

Retroversion is that form of uterine displacement in which the organ is turned over backwards, in such a way that its cervix is fixed behind the pubic arch, whilst its fundus is made to rest in the hollow of the sacrum.

In no form of displacement except inversion is there so great a derangement of the normal relations of the organ. It is a very common disease; next to prolapsus, it is the most frequent way in which the unimpregnated uterus becomes misplaced.

Anteversion, at least as the term is here used, is a displacement which is the reverse of retroversion. In anteversion, the fundus uteri rests on the bladder against the pubic arch, whilst its cervix is raised upwards and backwards in such a way as to look into the hollow of the sacrum, making the longitudinal axes of the organ horizontal.

The natural inclination of the womb, as has been already shown, is slightly forward, and there are numerous cases with but an exaggeration of this normal condition, described already as prolapsus in the first degree, which are very frequently mistaken for anteversion. It is, in my opinion, this error which had led some writers to believe that this is a frequent form of uterine displacement. As we define it, this is not the case; it is a very rare disease when compared with retroversion.

Version of the unimpregnated uterus, particularly retroversion, most usually presents itself to the practitioner as a chronic disease. This is to be accounted for, in a great measure, by the vague and unsatisfactory character of its early symptoms, and the natural delicacy of its victims, which is a barrier to that freedom of investigation readily applicable to all other diseases.

The early symptoms are generally confounded with those arising from temporary disorders of the uterine functions, to which all women are, more or less frequently, liable; even when threatening, practitioners themselves do not always insist upon vaginal explorations, at least not until after other measures of relief have failed. The acute symptoms, therefore, are generally allowed to subside before the true cause of them is ascertained, and the displacement continuing, is thus left to exert its chronic influence on the general system of the woman. There is another reason why this displacement is so

often allowed to become a chronic malady. Neither retroversion nor anteversion necessarily produce severe symptoms at their onset in all cases. This is so true, that some have contended that this form of displacement is hardly a disease requiring especial treatment. (M. Paul Dubois.) Such cases are due to causes which are gradual in their operation. They, and even those which begin by inducing marked and urgent symptoms, may, therefore, exist for a long time. I have at this time a case of retroversion under treatment, the history of which would go to show that it was of fifteen years' duration. In this there is nothing inconsistent with the nature of the disease; its tendency to a grave result is not rapid, and after it has become chronic, the symptoms are not always distressing. It is true, the patient is never free altogether from some local disturbance; she cannot exert herself with impunity, and her menstrual periods are apt to be disordered and painful; yet her sufferings are not so constant or so severe as to lead her to believe that amendment may not occur without treatment. The delicate nature of the disease, in many cases, leads her to suppress her feelings, and to avoid complaint. Besides, her mind is apt to become diverted from the local symptoms to the general disease, which takes the precedence. In this way most cases of these diseases are allowed to go on, vacillating from year to year, until the condition of the general health calls for interference. This is the history of nine-tenths of the cases, particularly of retroversion of the non-gravid uterus, met with in ordinary practice.

It will be seen, therefore, that opportunities are not frequent for the proper investigation of these diseases in their earlier stages. This is no doubt the reason why there is so much diversity of opinion among accoucheurs with regard to their mechanism. Their early history is really to some extent unknown, and conjecture is too much resorted to in their explanation. It may be thought that these displacements come almost within the range of direct demonstration, inasmuch as all parts concerned in such lesions are very accessible. But this is not so; for we must look beyond the malposition, which is the result of an antecedent state, involving parts which, if they do admit of ready investigation, an opportunity is hardly ever allowed for its application to them, since the displacement is never anticipated. Investigations are generally resorted to only after its occurrence, hence the real starting-point is not so readily discovered.

Pathology.—The malposed uterus in both forms of its version presents great uniformity in its condition. I believe that all writers are agreed that it has associated with it a structural change, to which the term engorgement is applied. I have never seen it absent. This engorgement may present itself in varying degrees of intensity. I shall describe it in the two extreme states in which it may be found, leaving the reader to infer that it may exist in every conceivable grade between them.

It may be partial, or it may be general, involving the whole organ. In the former case, it is always seated in the dependent surface of the organ; that is, on the posterior wall in retroversion, the anterior in anteversion. To the

touch it presents a slightly raised and generally smooth, though often irregular, and sometimes lobulated surface, which is denser than the natural structure of the part, and may be exquisitely sensitive. I have often felt it in retroversion, occupying a spot on the posterior wall of the uterus not larger than an almond, with well-defined edges where it joined the healthy structures. In such cases the remaining portion of the organ, including the cervix, may be perfectly healthy and natural. Generally, however, the whole pendent surface of the uterus is involved.

In the largest number of cases which may present themselves, this partial engorgement only will be found. But it is frequently general. This state is characterized by the increase of volume in the whole organ, which increase is everywhere general. The irregular and sometimes lobulated surface common in the partial affection, does not exist in these cases. The surface of the womb is smooth, and the organ has a dryer feeling than natural. There is some increase of firmness to the touch, but this appears superficial; for, on pressure, it readily yields, as though increased elasticity existed. In such cases, the cervix is involved equally in the engorgement or hypertrophy. It has a dryish, swollen, and puffy feeling; the os uteri gapes open, so that the finger readily slips into it. Its lips may be either very firm or indurated, or they may be unusually soft and flexible to the touch. Upon pressure, the womb in such a state exhibits generally little or no morbid sensibility. I am satisfied that the extent of the engorgement is, to some extent, an index of the duration of the disease. Those cases in which it is limited and circumscribed, are comparatively recent, whilst general hypertrophy of the whole organ only occurs in cases of very long standing. How long a time is required to effect the change from partial engorgement to complete hypertrophy I am unprepared to say. Nor can I say that I have ever traced out this progressive change in any single case; yet I have seen such an advance in the extent of the engorgement from time to time, as to lead me to the conclusion just expressed. I have seen only partial engorgement in a case of two years' duration, and complete hypertrophy in one in which symptoms of the disease had existed six years. I am inclined to the opinion that the period required may vary with the circumstances of particular cases.

The course of this structural lesion is not inconsistent with sound pathological views. It begins with vascular congestion and increased sensibility; and, in accordance with well-recognized laws, such a state, if continued, tends to hypertrophy of the part; which, when established, has such an approximation toward the natural texture, as to be often without morbid sensibility.

Engorgement resulting in hypertrophy is, then, the pathological state of the retroverted non-gravid uterus. It is, in the large majority of cases, the only morbid state found to exist in the organ, when its malposition does not depend upon extraneous causes, such as tumours within the walls of the organ and similar morbid states of its environs.

Occasionally, there is superadded to it a more serious lesion. The retro-

verted or the anteverted womb may be confined in its morbid position by adhesions to the surrounding parts, involving the rectum, the bladder, or a portion of the peritoneum. The tendency to such a result is, however, not very great. In ordinary cases of simple misplacement of the otherwise healthy uterus, the inflammation is hardly ever sufficient to induce it; the character of its subjects and the nature of the parts involved are rather opposed to plastic exudation; and when it does occur, it is generally due to some unusual cause. Such cases, therefore, are rare, although all writers on the subject mention their existence. Undue relaxations of the uterine ligaments and posterior wall of the vagina are also pathological states in retroversion with a similar state of the anterior vaginal wall in anteversion. The pathological states extraneous to the organ, which result from its displacement, will be specified hereafter.

Mechanism and Causes.—Very opposite views are held by equally distinguished pathologists, with regard to the immediate cause of this form of uterine displacement. Disagreement as to the real starting-point of the disease is the foundation of the controversy. One party contends that the original fault is in the womb itself; the other attributes the displacement to conditions extraneous to that organ, which is considered more or less passive in its production. It must be a nice point, to excite such division among men equally distinguished, and with equal opportunities of observing the same lesions.

Lisfranc first originated the view that the fault existed in the uterus. He attributed displacement in all cases to the coexisting engorgement. The opposite party consider this only as a consequence of malposition, which they attribute, in general, to relaxation of the uterine ligaments, and other natural supports of the organ. I shall content myself here with only stating such facts bearing upon this question as have come within the range of my own observation. It is contended that the uterus becomes active in causing its own version, either forwards or backwards, by the increased weight which is imparted to it by this morbid state of engorgement.

When this is general, it is said, a tendency is created for it only to descend in the natural course of the vaginal outlet; and, when partial, it then becomes diverted in the direction of the engorged surface. Retroversion is attributed to engorgement in the posterior wall of the organ, anteversion to that of its anterior wall. This view, especially with regard to retroversion, is thought to derive support from the state of the womb during pregnancy, in the early months of which that deviation often occurs. In this case, the displacement is said to be due to the natural development, which, in consequence of some resistance anteriorly by the pelvic environs, is, at that period of gestation, greater in the posterior half of the organ.

There are certainly objections to the exclusive adoption of these views of the mechanism of this form of uterine displacement. Dr. Bennet, one of their most ardent supporters, admits, in his work, that farther investigation is necessary to their complete confirmation. It is, I think, justly objected that

the increase of weight in the engorged womb is not of itself sufficient to effect the result. I have myself seen it exist to a very limited extent in well-marked cases of the disease. Indeed, whilst I admit that this engorgement is a necessary phenomenon in retroversion, yet I am equally satisfied that proof is wanting to show its existence in the organ anterior to the displacement. The advocates of this view have failed to prove a direct connection between engorgement as a cause, and the displacement as a result. I am not aware that any one has pretended to anticipate either form of version, by first showing an engorged uterus, posteriorly or anteriorly, and then tracing the progress of the displacement from that point. It is true, it may be urged that this may be only owing to the want of opportunity, inasmuch as we have already remarked that the condition of the uterus is hardly ever made the subject of an examination prior to the occurrence of the disease.

But, on the other hand, direct proof can be adduced to sustain the contrary proposition, that engorgement may follow a displacement of the uterus. I have frequently witnessed examples of this. A familiar one is furnished in flexion of the organ. The pendent surface of the fundus uteri, in permanent flexion, often becomes the seat of engorgement, which will disappear and then return, and which of course can have no connection with creating the malposition. The supervention of such a state is generally the cause of most of the distress attendant on some forms of flexion. I have frequently seen it arise, and under proper treatment disappear, in a case of ante flexion of the womb which has been under my observation for many years. The organ too, in this case, is the undersized womb, of Dr. Oldham, and I have no doubt but that the lesion of position is also congenital.

Another circumstance which would seem to argue against the pre-existence of engorgement in versions of the uterus, arises from the fact that this may greatly disappear without being followed by a corresponding return of the organ to its normal position, a result which I have witnessed. The history which we have given of the progress and extension of the engorgement, after the displacement has been found to exist, also is opposed to the view that it creates the displacement.

I think upon the whole that the weight of testimony is in favour of the view that engorgement and subsequent hypertrophy of the uterus are generally only consequences of displacement of the organ. In cases where it appears in the fundus of a permanently flexed womb it has been attributed, I think justly, to the mechanical disturbance of the healthy venous circulation, preventing the free return of the blood from the under surface of the organ. I cannot see how this same view, with equal plausibility, may not be applied to the explanation of its induction in versions of the organ. Nor is this all; its abnormal position exposes it to friction, mechanical pressure from its environs, and other causes, certainly favourable to the production of hyperæmia and local congestion.

I will not say, however, that engorgement is not a frequent cause of version

of the uterus. I only object to the exclusive view of the part it is thought to play in its mechanism. Such a morbid state of the organ is liable to debilitate and impair the tone of the whole uterine system, and it is in this way that I believe it acts to bring about the displacement. It is by its general influence, rather than by any particular direct method, that it operates; and, therefore, I consider it only as a predisposing cause of all such deviations. By this, then, it will be seen that the fact is recognized; that, in this way, a displacement may have its beginning in the uterus itself. In treating of prolapsus in the first degree, I have explained how such a morbid state of the womb operates in predisposing to its own displacement.

On the other hand, accoucheurs, in my opinion, equally involve themselves in error when they attribute the mechanism of this form of displacement to faults exclusively in the exterior appendages of the uterus. Dr. Meigs's theory has the merit of being very lucid and extremely convenient. It is only to suppose that the longitudinal position of the non-gravid uterus is maintained exclusively by the round ligaments, and that these are too short in anteversion, and too long in retroversion. The proper function of these ligaments is certainly not clearly defined. That they perform some part in maintaining the natural position of the womb is suggested by the fact that they are absent in quadrupeds. But the exclusive view of their use, held by Professor Meigs, is not supported by the general views of other pathologists in regard to their functions. A satisfactory objection to it is furnished in the naturally peculiar distensibility of all the so-called ligaments of the uterus. We have already intimated that version of the uterus is necessarily preceded by a morbid mobility of the organ, which clearly may be due to relaxation, not only in the appendages of the womb but also of its environs. It would appear from the above facts that both of the parties engaged in this controversy are to some extent right, as the displacement may have its origin in either source, the uterus or in its appendages; and, on the other hand, that they are both equally wrong in attributing the lesion exclusively to either the one or the other source. They are contesting, indeed, about phenomena, which, to say the least, play but parts in the whole mechanism of uterine version.

Some antecedent morbid mobility, from whatever cause it may arise, must be, it would appear, the first step in the production of either form of version of the non-gravid uterus. This same pre-existing condition is also necessary to prolapsus. One woman, with a movable uterus, will get a simple falling; another, either retroversion or anteversion. The two latter, however, be it remembered, are much the less common forms of disease.

It would really seem from this, that there must be some existing condition which regulates the form of displacement. Such an assumption is, in my opinion, not without strong grounds to warrant it. We have elsewhere said that a short and *straight vagina* is commonly associated with prolapsion, and I have never seen version of the uterus, in either form, that was not accompanied by an unusually *long and curved vagina*. This variation of the vagina

is interesting as being an index of the pelvic conformation; in the former case it indicates a shallow pelvis, short and straight sacrum; in the latter, a deep pelvis, with a long and greatly curved os sacrum.

Women who are the subjects of version appear to carry the uterus higher up than usual, and they are most usually tall and thin in person. I have long been of opinion that a peculiar pelvic development had much to do with this form of uterine displacement.

The conditions which I think I have observed in it, and which appear to be in some degree necessary to the existence of version, are, first, an unusually long, curved, and strong vagina; second, an unusually high and deeply curved os sacrum; third, unusual protrusion of the sacral promontory over the superior strait.

The mechanism of these different conditions is to be explained in this way. The firmness and peculiar shape of the vagina, supported by the resistance of a healthy state of the perineal muscles, steady and secure the womb against a downward tendency, thus leaving the elevated and free fundus to the full play of all forces coming against the organ from above. Ordinarily these forces, if sufficient to displace it at all, would move the uterus downwards; but, in this case, they are made to receive a peculiar direction by the intruding sacral promontory. By this condition, the successive and other forces from above are directed quite over the fundus, lying beneath and somewhat under it, and must fall therefore against the anterior surface of the organ. This brings into play the last condition which we have mentioned, the deep sacral curvature, which, by furnishing the space in an opposite direction, enables this force readily to turn the whole organ backwards. Ordinarily, the small intestines float over the fundus uteri, and around it, filling, particularly, all interstices between it and the sacrum; but in the state of things just described, these are liable to fall over and lie against the anterior surface of the womb, thereby becoming, by their pressure, a force tending to retrovert the organ.

The bladder, in its varying conditions, assists to induce this same result. When it is empty, it admits space for the superincumbent intestines to press in the same direction, and, when filled, its own force is directed on and against the anterior part of the fundus.

In order that these views should be fully understood, I must again recur to the part which the vagina plays in the mechanism of version of the uterus. This firmness which has been attributed to it, and upon which depends the prevention of the descent of the cervix, without which retroversion could not occur, is due in a great measure to the increased length and curvature of that organ in these cases. Anatomists tell us that the posterior and lateral parts of the vagina are inserted into the soft and distensible parts, but the anterior and part of the antero-lateral walls are firmly attached to the pubic arch. Now, for the vagina to be both long and curved at the same time, it is obvious that this increase must be greatest in its posterior wall; hence the curvature.

In this state of things, it is not unreasonable to suppose that its anterior wall may be in a different state from its posterior wall, and that, in short, the two may act antagonistically to each other. Something like this appears to take place in the mechanism of retroversion, from its earliest stage. The posterior wall yields first just below its attachment to the cervix, and then gradually gives way farther before the descending body and fundus, whilst the anterior remains firm, so much so that it has to be considerably stretched backwards before the womb can take the position of complete retroversion. The fault seems to be in the inability of the posterior vaginal wall to maintain its integrity equally with its anterior wall. Were the latter to yield correspondingly, plainly there would be only prolapsion.

I am aware that some, often considerable, descent of the organ is frequently found associated with retroversion. So far from considering this a necessary state, I am inclined to attribute its occurrence, in every case, to subsequent causes. I think I am justified in doing this, from the fact that I have often encountered retroversion when it was unaccompanied by any such state. I have found the proper length of the vagina anteriorly so well maintained that it was difficult to reach the cervix with the index-finger, and I have often had to straighten the curve in the uterine sound before it could be brought within range of the os. When, too, the womb is repositied in such cases, it takes its true position as regards its height in the vagina, and exhibits no tendency to descend abnormally.

When I come to speak of treatment, it will be farther seen how important a feature this greater curvature, and the consequent weakness of the posterior vaginal wall becomes in the whole history of retroversion.

But the perineum also plays a most important part in the mechanism of retroversion. By supporting the vagina, it assists to fix the cervix, and hence allows the forces from above to be directed against the fundus. So far from being relaxed, as in prolapsus, I have seen it in a persistent state of spasm in retroversion.

In regard to the mechanism of anteversion, the circumstances which regulate it must be in some, although in a slight degree, the reverse from retroversion. The pelvic conformation may differ, but only in a less protrusion of the sacral promontory; but there is the same length and curvature of the vaginal tube. In its production, the cervix must also become the pivot on which the organ turns in its forward projection; but in this case it is the anterior vaginal wall which is at fault. I apprehend that, owing to weakness, and perhaps some distension of that part of the anterior vaginal wall which connects the bladder and cervix, the organ first descends to the posterior wall. Here it meets with resistance either from it or its subjacent structures, and, the forces from above still acting, these gradually separate the womb from the bladder by stretching the intervening attachment, until the fundus is allowed to fall forward behind the bladder to rest on the anterior roof of the vagina. Corresponding to this change in the fundus, the cervix, at the same

time, first pushes itself upwards and then backwards, a movement which it could not perform except in cases in which the depth and curvature of the sacrum were sufficient to admit it. In this position, the longitudinal axis of the uterus is horizontal, and in it there evidently exists, either preternaturally or otherwise, unusual length in the anterior vaginal wall, with a greater than natural separation of its cervix from the posterior wall of the bladder.

I am inclined to the opinion that the production of anteversion is generally gradual. The disease, as has been stated, is very rare, and opportunities for its investigation have not been so frequent as is desired, in order to express conclusive opinions in regard to its mechanism.

Whether the above views regarding the mechanism of uterine version be correct or not, it is certain that it is created by the same exciting causes which are known also to produce prolapsus. The exciting causes of the two deviations may, indeed, be described as the same. Whatever tends suddenly and violently to force down the diaphragm, may, therefore, excite version; and excessive laughter and continued spells of coughing are common as its exciting causes. Menstruation predisposes to the disease, and exertion during its existence often excites it.

All writers mention a loaded state of the bowels as a cause of the disease. The modern style of dressing, by compressing the abdomen, may tend to increase the power of the natural forces which produce retroversion. This, together with the relaxing habits of modern women, may account for the greater frequency of all such diseases in recent years.

When the fundus uteri, from any cause, is fairly started in either direction, by encroaching on the rectum on the one hand, and the bladder on the other, it establishes a new force in the vesical and intestinal tenesmus, which rapidly hastens the consummation of its complete displacement. I am not sure that vesical tenesmus, long continued, like that arising from an uncured urethral gonorrhoea, may not itself bring on the disease in cases favourable to its production.

I have seen a case of retroversion in a young non-childbearing woman, which the patient attributed to straining to evacuate the bladder, to which she had been subject for many years. Having stated their probable mode of action in creating the result, it will be unnecessary to mention particularly any other exciting or predisposing causes of uterine version, since there will be readily suggested to the reader all others likely to act in the same way.

Local Symptoms.—On glancing at the malposed uterus in either form of version, it must appear evident that prominent symptoms are likely to be created by the direct contact of the organ against two important outlets of the body, viz., of the rectum and the bladder. Functional disturbances, therefore, of both those organs, are common symptoms in this form of uterine displacement. Inasmuch as these symptoms are liable to much variation, not being equally intense in all cases, and not always equally severe in the same case at all times, some notice is necessary of these peculiarities, and the cir-

cumstances which tend to create them. In most cases of retroversion and anteversion, vesical and rectal tenesmus will be prominent, and generally severe symptoms from the very beginning of the disorder. For obvious reasons, the two are most apt to be combined in retroversion. I have seen them both continued unabated from day to day, for a period of two years, in the latter disease. Yet this is not always the case, and it is well to remember that retroversion and anteversion may be present, and yet the patient may not, all the time, be troubled with either symptom. It is true, in every such case she will remember that they have been present, and, moreover, will generally know that any unusual exertion, either by standing or walking, will be sure to bring them on.

The origin of these symptoms is due to direct mechanical pressure, and they are liable to vary with the amount of irritability of the organs encroached upon. It must be evident, therefore, they are apt to be most severe in the early stages of the displacement, and that, after the lapse of sufficient time, it is not unreasonable to suppose that the organs pressed against may so far accommodate themselves to the compression as to lose much of the irritability created by it. Should the displacement come on very gradually, the same state of things may result, and the patient never suffer severely from either symptom. I have met with just such cases. The amount of suffering from either symptom depends very much upon the individual. An irritable woman will suffer intensely and persistently from a very slight deviation of the womb, either forwards or backwards, whilst one of a lax muscular fibre, and of the lymphatic temperament, will hardly complain, although affected with a greater displacement.

It will be seen that these symptoms are modified: 1st. By the duration of the malady. 2d. By the manner of its production, as to whether sudden or gradual. 3d. By the peculiarities of individual constitution.

Some guide to the practitioner, as to their connection with version in either form, will be furnished by the direct influence of exercise, which generally increases them when they exist, and most usually develops them when they are absent. The effect of the menstrual period will often aid in giving an additional clue to the same thing. At such a time, the irritability not only of the womb, but of its environs, is greatly increased, and I have always observed that women who are the victims of either retroversion or anteversion, have the symptoms which arise from their bladder and rectum aggravated by the catamenial flow. Of the two classes of symptoms, those which originate in the rectum are, in the history of any particular case, the sooner apt to subside, and also to disappear the more completely.

Besides tenesmus, there are other important symptoms in retroversion, which arise from the functional disturbance of the rectum. A sense of obstruction to the passage of the feces generally exists. The patient is conscious of a loss of power in their discharge. This may arise from direct mechanical pressure and obstruction from the intruding fundus uteri; or it

may be due to an apparent paralysis of the rectum. In the former case, the feces are discharged with great pain, and are often flattened, and, when soft, ribbon-like; in the latter case, they are only voided after great difficulty. Hemorrhoids, accompanied by profuse bleeding, often coexist with this form of uterine version.

The vesical symptoms hardly ever disappear entirely in either retroversion or anteversion. In the latter disease, the patient is scarcely ever free from a sense of pressure against the "water-passage." The urination in both diseases may be very variously disturbed. In some cases of retroversion, the urine may be well retained and voided without either pain or difficulty; yet, in a few minutes after the act, an aching sensation will be established about the neck of the bladder, lasting several hours. I believe the difficulty arises, in such instances, from the contact of the urine itself against the mucous membrane of the upper vaginal wall, which is stretched backwards and often persistently fretted and irritated. The same symptom is often associated with difficulty in retaining and voiding the urine.

The urination may be deficient and painful in both retroversion and anteversion, or there may be complete suppression, or again, inability to retain the urine. The urinary symptoms in these cases are generally worse at night, and I have observed that they are aggravated by constipation, and always more or less relieved by enemata which clear the rectum. The mechanism of a loaded rectum in such cases is apparent, and I think useful hints may be derived as to the origin of such symptoms in a misplaced uterus by the directly salutary effects of fecal evacuations.

Other disturbances of the functions of the pelvic and lower abdominal viscera are liable to be created by the pressure and the distortion of the misplaced uterus in both forms of version.

The misplaced fundus in retroversion often presses on the sacral nerves, and gives rise to numbness, and occasionally loss of motion in one or both legs, but generally the left. I have seen a lameness due to this cause alone, which had existed for many years, misunderstood and treated for rheumatism, and which was immediately and permanently relieved by elevating the fundus. Hence I consider this to be an important symptom, and although from its mechanism it might be supposed to be persistent, yet it may, like the other symptoms just referred to, vary in intensity at different times in the same case, and from the same reasons. It will be modified by any cause likely to either diminish or increase the local irritation and congestion, and such causes arise in the variation of the habits and health of the woman, as in the case of the vesical and rectal symptoms.

In its descent, the retroverted fundus may involve one of the ovaries, so that by its pressure inflammation may be created in that organ. Dr. Rigby, who first pointed out this result of retroversion, says it is by the long continued effects of the displacement, and that the left ovary is the one always involved. These organs are also influenced by the displacement in another

manner. By the long-continued strain upon the broad ligaments, and perhaps by some obstruction to their returning circulation, the ovaries are always more or less irritated in both forms of version. The uneasiness which this state usually creates is generally felt in the left ovarian region; it is sometimes, however, located in the right side. The greater liability of the left ovary to manifest its irritation is very plausibly attributed, by Dr. Simpson, I believe, to its contiguity to the rectum, where it is more exposed to irritation, from the varying condition of that organ.

The stretch upon the peritoneum, which is necessary in either form of uterine version, always creates a train of local symptoms, which, like the others mentioned, are more or less persistent according to circumstances. Among these are a sense of tension and uneasiness around the lower abdomen, and in the groins; and a want of tone in the muscular action of the intestines, giving rise to flatulent accumulation and permanent distension of the bowels. A consciousness of weakness in all the pelvic apparatus attends these displacements. Such patients have a weak and painful back, often complaining of pain in sitting and rising, and always suffer after walking and standing.

The functions and vital conditions of the uterus are variously deranged and perverted in both retroversion and anteversion.

We have elsewhere spoken of the disorder in its sensation, and the circumstances which regulate it, and need not recur to it again, except to mention that uterine heat and pain are generally felt by the woman herself in most cases of the disease. Professor Simpson mentions that in some rare cases an absence of sensation is exhibited by the uterus, and I have seen such cases myself.

Sterility is, in my experience, almost invariable in both retroversion and anteversion. Authors, however, by mentioning them as causes of abortion, do not seem to adopt this view. I have not only found my patients sterile, but have generally had them to confess to the absence of all sexual desire, and that coition, if not painful, was unsatisfactory. Leucorrhœa, from obvious causes, always attends these diseases; liable, however, to similar variations with the other symptoms, according to the circumstances and condition of the woman.

The disorders of menstruation are very various. All the existing local symptoms of the disease, as I have already mentioned, are aggravated during the period. I have generally found profuse menstruation only in recent cases; in very chronic cases it is almost always scant, pale, and deficient. The amount of pain felt at such a time varies with particular women; as a general rule, it may be said the catamenial period is always unnatural and distressing, in both retroversion and anteversion.

Diagnosis.—Although the local symptoms which have just been detailed are amply sufficient to fix a morbid state upon the uterus, none of them, nor all together, are sufficient to point out the exact nature of its disease with any degree of certainty.

It would appear that the symptoms particularly, which so obviously arise in the rectum and the bladder from both retroversion and anteversion, ought at once so plainly to point out these displacements that the practitioner might confidently rely upon their presence to indicate the disease. But such is not the case, because both classes of symptoms are liable to appear in other affections. Of the two, the symptoms originating in the rectum are to be relied upon with more certainty, with regard to their indication of the presence of retroversion. They however may, and sometimes do mislead, inasmuch as they can originate from other causes, two of which it is thought necessary to briefly specify. They may arise from stricture of the rectum; and most surgeons assert that that disease is more common in women than in men. I believe, however, that the danger is precisely opposite. Retroversion is far more frequently treated for stricture of the rectum. Chronic dysentery may possibly be confounded with the symptoms of retroversion originating in the rectum. Here, again, the reverse is most apt to be the error fallen upon. I have seen in one case retroversion treated for many months for chronic dysentery; the coexisting vesical irritation which was present being attributed to sympathy with the diseased intestine. Such mistakes occur with regard to hemorrhoids, which are often treated as primary affections, when they are exclusively due to the pressure of the misplaced fundus in retroversion. The same thing may be said with regard to certain forms of anal hemorrhage which occasionally results in the disease.

All the vesical symptoms are totally unreliable as means of judging with regard to the presence of either form of uterine version, because they not only exist in other forms of deviation, but generally attend on most functional diseases of the uterus. There is but one certain method of establishing satisfactorily the existence of either retroversion or anteversion of the non-gravid uterus. This consists in the direct examination of the womb, per vaginam, per rectum, and sometimes through the bladder with the catheter. This examination does not require the uterine speculum—for obvious reasons this instrument cannot expose this disease—it is performed with the touch, and when insufficient, by certain other means and instruments, which will be named as I pass on.

Before detailing the method of this examination, it will be necessary first to point out what the accoucheur has to beware of in the diagnosis of retroversion and anteversion. We shall first speak of the morbid states, which may be confounded with retroversion. These may have two sources—they may arise from disease in the uterus itself, or from disease in the environs of the organ. Mere mention of most of them will be all that is necessary. The conditions of the womb liable to be confounded with retroversion are—

1st. Pregnancy, in its early months. We have already alluded to the increased posterior development of the uterus in the beginning of gestation, and it is this state which creates the danger of misconception.

2d. Fibrous tumours of the posterior wall of the uterus. This is an ex-

ceedingly common morbid state of the non-gravid womb. Retroversion is moreover frequently coexistent with it.

3d. Carcinoma of the uterus.

4th. Post-parturient hypertrophy.

The diseases of the environing organs liable to create embarrassment in the diagnoses of retroversion are: 1st. Ovarian tumours in their early stages.

"When," says Professor Simpson (*Dublin Quarterly Journal*, May, 1848), the ovary enlarges from multilocular degeneration, or other causes, it almost always first grows downwards into the space lying between the back wall of the uterus, and the anterior part of the rectum, resting thus upon the roof of the vagina behind. In its enlargement, it almost invariably pushes the uterus anteriorly, and before it, and this relative position of the uterus to ovarian tumours is often an important matter in the diagnosis of ovarian disease in its later and more advanced stages. At first, the body of the enlarged ovary may be mistaken for the retroverted fundus uteri, more especially as the os uteri is generally displaced forwards."

2d. "Pelvic-cellulitis." Inflammation of the pelvic cellular tissues, either with or without suppuration, may be limited to a spot between the uterus and rectum, where it may present a firm tumour, simulating retroversion.

3d. Extra-uterine conceptions, lodged between the uterus and rectum.

4th. Organic disease in the anterior wall of the rectum.

5th. Strangulated vaginal enterocele.

I have seen a case of vaginal enterocele, in which a knuckle of intestine, filled with hardened feces, had fallen between the non-gravid uterus and rectum, where it became strangulated. The inflammation which resulted, and the fecal ball lodged against the roof of the vagina, and other circumstances, conspired to produce an arrangement of parts very similar to that above described as occurring from ovarian disease, and which certainly created doubt, at first, in regard to the existence of retroversion.

In the diagnosis of anteversion, there are not so many sources of difficulty. Fibrous tumours in the anterior wall of the uterus should be borne in mind in investigating it.

I am not aware that any condition of bladder, against which it rests, or of the anterior vaginal wall, is likely to constitute a state liable to interfere in the diagnosis of this form of displacement; although it is said that, in examining the bladder, the fundus of the anteverted womb may be mistaken for an encysted calculus.

When he understands the means of testing for retroversion or anteversion, the reader will readily perceive how all mistakes, likely to arise from any of the conditions just mentioned, are to be avoided.

Before going into the tactile examination, it is necessary that the bladder and rectum be first emptied. The position of the woman may vary with the choice of the practitioner; I prefer the post-dorsal, because I have found it the most convenient for all the various manipulations. In retroversion, when the index, in the usual way, is passed into the vagina, it is first arrested by

the body of the organ lying athwart that canal. The point usually first touched is just below the cervix and body, which, when there is much engorgement, feels very much like a tumour or other extraneous body. To reach the cervix, the finger must be elevated quite up to the pubic arch, and to examine the fundus it must be carried downwards to the perineum. Frequently, its descent is arrested half-way; the body of the organ, and its fundus, cannot be reached; either because it is too high, or because it is buried in the vagino-rectal space, quite into the intestine. The anterior wall of the vagina will be found stretched backwards, and often sensitive, and the posterior relaxed, bagging down before the fallen fundus. By a little manipulation, the finger may be passed around the cervix, so as to bear it forward, and in some cases, which are accompanied with a slight descent of the womb, it can be made to touch and elevate the fundus. To the touch the cervix uteri presents itself very variously in different cases of retroversion.

As we have already described the different states of the os uteri in this affection, it is not necessary to repeat here what we have stated in treating of the pathology of version.

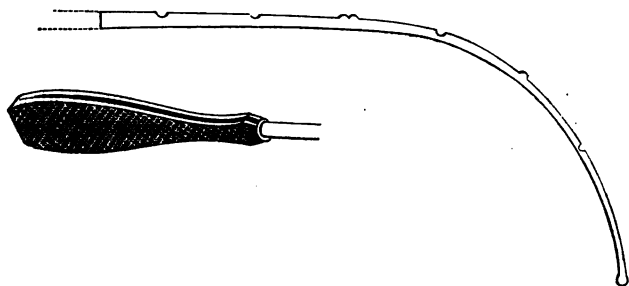
In some cases the uterus in retroversion is quite movable, and, by effecting its reposition, all doubt about its diagnosis is removed. In such cases, this is to be effected by first pressing up the fundus, and then by making steady pressure, downwards and backwards, against the anterior part of the cervix, previously dislodged from behind the pubis. By pressing the left hand over the pelvis, in very thin women, the absence and presence of the fundus may sometimes be detected. But such satisfactory results cannot be generally arrived at by mere tactile examination. As has been elsewhere remarked, the vagina is always longer in women who are the subjects of this disease, and the uterus is generally too high up to manipulate to advantage.

When, as is often the case, the true position of the fundus uteri cannot be defined through the vaginal touch, then recourse can be had to an examination per rectum. In this way the approach to the organ is more direct, and the finger can be carried much higher in the pelvis than through the vagina. Through the walls of the intestine the fallen fundus, in retroversion, can be readily felt, and often easily moved; and, if replaced, it may be sufficient to establish the nature of the disease, without farther trouble. But this cannot always be done, and doubts may exist as to whether the tumour felt be really the fundus uteri. It has been recommended, in this state of things, to conduct an exploration through the bladder and the rectum at the same time. This is performed by first introducing a catheter into the bladder, then the finger is passed up the rectum beyond the suspicious tumour. By a little manipulation the catheter can be brought to touch the finger, which it could not reach if the uterus was erect and intervening.

But by none of these methods are satisfactory results always obtained. Before the introduction of his uterine sound, Professor Simpson, with all his experience, confesses that he failed in the diagnosis of retroversion, and often

confounded it with tumours of the uterus. This instrument, therefore, furnishes us with invaluable aid in the exploration of this form of uterine displacements. It is a safe method, and the only certain one in the diagnosis, particularly of retroversion, under many circumstances. It is an instrument which is used with great facility, and saves much needless exploration; that per rectum, always a disagreeable operation to both patient and practitioner, is, with it, hardly ever necessary. As the instrument and the manner of using it are both familiar to the profession, although recently discovered, I shall content myself with but a brief notice of it.

Fig. 1.

Simpson's Uterine Sound ($\frac{1}{2}$ Nat. size).

The idea which led to the discovery of the uterine sound, originated in the very wants it is intended to supply. Before, as we have just remarked, it was often difficult to decide upon the direction of the uterine fundus; and, in order that he might be enabled to solve this difficulty, Dr. Simpson determined to invade and ascertain the direction of the uterine cavity, as a certain guide to it.

The instrument (see Fig. 1) has the configuration of a slender male catheter. Its tapering and curved extremity is rounded and knobbed; the depth of the uterine cavity, two and a half inches, is marked on its convex side; its handle is smooth on the posterior and roughened on its anterior surface.¹

¹ The normal length of the cavity of the healthy uterus is two and a half inches, and at that point the bougie is marked, as seen in the figure, by a single elevation, or knob, which can be readily felt when the instrument is under use, and at once advertises the practitioner that it is introduced the whole length of the uterus.

When the uterus is hypertrophied, when enlarged with fibrous tumours, &c. &c., the cavity is elongated, and the degree of its elongation can be easily measured by the bougie. There are two elevations upon it, at four and a half inches from the point, in order to enable the physician to take his measurements easily without withdrawing it. Elsewhere than at two and a half and four and a half inches from the point, there are depressions and grooves at inch distances for the same purpose. In cases in which the uterine cavity is diminished in length by inversion, &c., the bougie equally en-

To introduce the sound in the healthy womb, it must be carried upward and forwards, in the direction of the umbilicus, until its point is arrested by the top of the uterine cavity. Its concavity, indicated by the rough side of the handle, being upwards, is then directed towards the symphysis pubis. When within the retroverted womb, its position is precisely opposite, its point is directed backwards and somewhat downwards, and its concavity, and the rough side of its handle, looks towards the sacrum.

In retroversion, therefore, the instrument cannot be passed beyond the cervix without changing the direction of its point, which is easily done by simply turning the rough side of its handle downwards. (See Fig. 2.)

It is sometimes difficult even to enter the os without first making this change; it cannot, in many cases, be done without previously drawing the *cervix forward*.

Fig. 2.

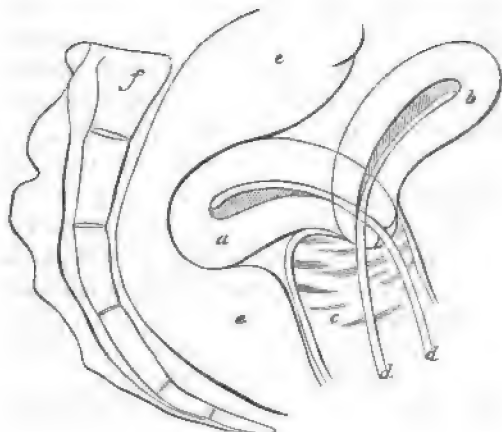


Diagram showing the Uterine Sound within the womb in retroversion, and its position when in the healthy womb; and also how it must replace the organ when its concavity is turned upward. *a.* Retroverted Uterus. *b.* Uterus replaced. *c.* Vagina. *d.* Uterine sound. *e, e.* Rectum. *f.* Sacrum.

In testing for retroversion, the instrument, after entering the os in the usual way, must be gently turned as its progress becomes obstructed. Often it passes quite into the uterine cavity before its reversion is completed. I prefer, in cases where it is suspected, passing the sound into the vagina with its concavity downwards; in this way it can be more readily made to enter the os. There is often some difficulty in this when the cervix is very high

ables us to ascertain that point. The whole length of the stem is nine inches. It is represented in the figure as bent in the curved form, in which Prof. Simpson generally uses it; but, being made of silver, its bend can be readily changed, increased, or diminished, to suit different cases and indications of use.—*Simpson, in Dublin Quarterly Journal, May, 1848.*

up; and instruments of varying degrees of curvature are necessary to meet the demands of all such cases. The passage of the sound in the direction indicated, is satisfactory evidence of the existence of retroversion. But the great advantage of the instrument does not cease with this; we have then complete control over the whole uterus; and, if any doubts exist, we have only to insert the finger into the vagina or rectum, then gradually turn the sound, when the suspicious tumour will be felt moving upwards with it. Having once replaced the fundus, we can readily bring it down again; we can, in short, make assurance doubly sure by making and unmaking the displacement at pleasure.

Having the use of the sound, no one need labour under any doubt regarding the existence or non-existence of retroversion.

It shows conclusively the direction of the uterine cavity; and, when the instrument is passed to its proper mark within the womb, with its concavity looking upwards towards the pubis, it at once separates the idea of retroversion from any suspicious mass located between the vagina and rectum, where are to be found most of those states liable to be mistaken for it.

The diagnosis of anteversion is usually not attended with difficulty. By the touch, the fallen fundus can readily be felt pressing down the anterior wall of the vagina; whilst the reversed cervix and os, lying in the hollow of the sacrum, is with difficulty reached with the indicator. By raising the fundus and bringing down the cervix, this displacement can be readily rectified; and, when this is done, there can be doubt no longer in regard to its true nature. The sound is not always required in its diagnosis; when it is, the hints given above regarding its use in retroversion will readily suggest its method of employment in this affection.

Flexions of the Uterus.

Nature and History.—The proper method of recognizing this disease in the living subject is a recent discovery. In 1843, Professor Simpson introduced his uterine sound, by means of which he was enabled to separate flexion, as a distinct form of uterine displacement, from all other deviations with which it had been until then most generally confounded. At first, the statements which were made as regards its frequency were not credited. The improved means of diagnosis, however, soon convinced accoucheurs that they had, as was stated, overlooked the affection, and that it was a frequent form of uterine deviation; as frequent, according to Dr. Rigby, in the non-gravid as retroversion is in the gravid uterus.

In its history, flexion partakes of the character of version of the organ, and when not discovered and obviated in its earliest stages it may exist for years without calling for especial treatment until its influence upon the general health demands interference. The disease is most usually established when it comes to the notice of the accoucheur. Its general effects are the same with version, varying somewhat in not being so universally serious. In occasional

cases its presence may not be felt, and its existence may be only known by its consequences, which are, generally, sterility, ovarian disease, and dysmenorrhœa.

In true flexion, the womb is bent on itself at a greater or less angle, so as to impart to the organ the shape of a retort.

Materially differing from version, its cervix, when examined in the living female, is found normal in position. It is in the body and fundus of the organ that the deviation exists.

In flexion, there is always some slight descent of the womb.

In ante flexion, the fundus is bent forward so as to rest on the bladder against the symphysis pubis.

In retro flexion, it is turned backward, imbedded within the anterior wall of the rectum to lodge in the hollow of the sacrum.

Partially lateral flexions also exist, and are more common than similar deviations are in version of the organ.

In these cases the diverted fundus lies to the side, most generally the left, in the direction of the sacro-iliac junction. The point at which the organ is most usually found bent on itself is the upper third of the cervix near its junction with the body, and the angle is more or less abrupt. It may, however, involve the entire cervix and a greater part of the body of the organ, and then there is a greater curvature in the flexion.

Mechanism and Causes.—The natural texture of the uterus is flexible, and its cervix in a healthy state can, at pleasure, be turned in any direction; the cause of its permanent flexion, and its pathological state, are questions of great interest. It may be a congenital fault. Most writers recognize faulty development as a source of the disease. It is occasionally, indeed, a malformation. In a case which has occurred in my practice, the long and abnormally flexed cervix was permanently fixed upwards by a sort of frænum, formed, as I believe, by a fold in the vaginal membrane. In this case, it should be remarked that the state of the uterus has never given rise to particular local symptoms. The woman is sterile, and suffers only with ovarian irritation and painful with disordered menstruation. But such cases constitute but a small proportion of those met with. In the large majority of cases the flexion is a morbid state, which has had its origin since the beginning of the menstrual period. When from any cause the fundus uteri, in any direction, is forced downwards, so that it is flexed on its cervix, this flexion may become permanent in two ways. In the first place, the parts involved in the flexion may, from long-continued pressure, become atrophied. There is an actual loss of substance in the uterine walls, in this case, which renders them too weak to allow the organ afterwards to erect itself. Such flexions are easily redressed, they are never fixed; the fundus can be raised with the finger, and the folded point of the cervical walls will rebound outwards, but the fundus will descend and its walls will fold up again on the removal of the pressure. The angle

is sharp in these cases, and the flexed point appears to the touch as a mere crease or fold within the part, and is very abrupt.

In the next place the flexion may become permanent, and yet there may be no loss of substance within the uterine walls. On the contrary, such cases are accompanied with hypertrophy, indicated by increase of firmness if not volume of the part. In such cases a morbid action of an inflammatory nature is established, and a slow interstitial deposition occurs, which moulds the cervix permanently in the form in which the bend originally was created. There is unusual density and firmness of structure indicated by the touch, and the flexion is less abrupt and more curved. Such flexions cannot be redressed at all in many cases. Pressure on the fundus removes the whole organ, so it does when employed against the cervix. To be effectual, it must be simultaneously made against the cervix and fundus. The onset of this form of uterine flexion is attended by severer symptoms than the other. It begins in acute inflammation of the cervix, which by degrees becomes chronic, leading to the interstitial change and hypertrophy.

The state of the uterus most favourable to these changes is that immediately succeeding labour. During the existence of the post-parturient hypertrophy, the womb is not only more exposed to causes likely to depress its fundus, but being in a transition state, it can then be more readily moulded into a morbid shape. Most writers on the subject have referred the beginning of the largest majority of cases coming to their notice to parturition. Next to labour an abortion most readily prepares the uterus to assume the flexed form. Abortion is the cause of the disease, and it is often the cause of abortion.

But the disease is not confined to childbearing women. It often occurs in virgins, and women who are married, and yet have never borne children. In such, it is the menstrual period which creates the predisposition in the womb to assume a state of flexion. The vital activity of the organ at such a time renders it impossible to all influences likely to establish this change in its configuration. I believe that one or the other of these predisposing conditions is necessary to the production of this deviation. There must either be a recent labour, an abortion, or the menstrual condition, or it is not liable to be excited. With these conditions, the causes likely to produce it may be pointed out. Before mentioning them, however, attention must be called to a state greatly facilitating the operation of the exciting causes of uterine flexion. This is a deep and capacious pelvis. The fundus uteri must be somewhat elevated, and there must be great natural freedom in its motions, in order that it may be influenced by the exciting causes of this deviation.

With this state of things anything tending to depress the fundus, either suddenly or gradually, may create the disease.

Dr. Denman, the first English author who has described flexion of the uterus, traced its occurrence in a case to the pressure of a full bladder on the fundus succeeding labour. The urine was retained both before and for some time after delivery. Velpeau accounted for the existence of many cases of

the disease in this way. It must appear evident that anything tending to depress the fundus after confinement may leave the womb in a flexed condition. The same thing may be said in regard to abortions. After such an accident, flexion may be induced by falls, leaping, by violent laughter, much coughing, or by any successive force from the diaphragm. All these influences operate upon the womb in the same way during the catamenial flow.

The following interesting history of a case, obtained from an intelligent lady, points out such an origin of the disease. During the second week of her marriage, and whilst menstruating, she ran violently up a steep ascent and then down again; in doing so, she suddenly felt "something give way" within the pelvis, became faint, and with difficulty reached home. Severe pelvic pains with fever came on, attended by suppression of the menses, which lasted several weeks. Her case was treated as one of acute metritis. Her severe sufferings gradually subsided, but she remained an invalid, troubled all the time with painful sensations in the pelvis, and a constant pressure against the "water-passage." Eight years after her first attack, these symptoms all the time continuing, she came under my care, and, upon examination, I found ante flexion of the uterus, which had become permanent, owing to atrophy of the anterior cervical walls involved in the flexion.

Local Symptoms.—These resemble very much those arising from version of the organ. Indeed, they are so nearly allied to them, not only in their manifestations but their origin, that it is deemed altogether unnecessary to specify them. The reader having acquainted himself with the local symptoms of version, as given when treating of that displacement, will be prepared to have suggested to him all those likely to arise and indicate flexion of the uterus. It is preferred to occupy the space for them by alluding to some of the consequences of flexion in the non-gravid uterus. *Engorgement* of the pendent surface of the fundus is the common result of flexion. In the early stages of the disease, I apprehend that the two are always associated. Its origin is thought to be due to the arrest of the venous circulation within the organ, which arises mechanically and otherwise. This engorgement, however, may in time subside. I believe that the organ is, generally, prepared to maintain its circulation properly by a new arrangement of its forces after the long-continuance of a state of flexion. If it were not so, how can we account for the existence of the disease when congenital, and unaccompanied by engorgement? After its perfect subsidence, the flexed fundus is readily liable to become engorged. Much exercise or any local disturbance of the uterus will create it. But as a general rule engorgement, and often hypertrophy, of the pendent surface of the fundus are found associated with flexion, and it may be sensitive or not, according to circumstances.

Ovarian irritation, and often chronic inflammation, of these glands, are generally found as the results of flexion. Their origin, in such cases, is most probably the same as in version of the womb.

Dysmenorrhœa is a result often peculiar to flexion of the uterus. This

variety of the disease corresponds with that described by McIntosh as dependent upon the preternatural narrowing of the cervical canal. This narrowing is the mechanical result of the flexed cervix. It may occur in both forms of permanent flexion, as heretofore described, viz., where the flexed walls are wasted, or where the neck is kept bent permanently by a state of hypertrophy. I believe it is more common in the former condition. The cervical canal is in it more liable to obliteration by the pressure of the fallen fundus, which bears the thinned cervical walls inwards against the opposite side.

In the latter state, the integrity of the canal is most generally maintained. The interstitial change is guided by the original mould of the uterine neck; although it may, and often does, encroach upon the canal.

But in all cases of flexion where dysmenorrhœa exists, it cannot be traced to this source. Indeed, in the state of the ovaries and the uterus itself there are other sources of painful menstruation, equally palpable, in many cases, with the narrowing of the canal.

Besides dysmenorrhœa, the menstrual functions are otherwise disordered, and very variously, in different cases of uterine flexions. As in case of version, I have found flexion most usually associated with sterility, and there is generally a relaxed and debilitated state of the sexual system with leucorrhœa.

Diagnosis.—The same conditions of the organ and its environs interfere with the diagnosis of uterine flexion, which have been described as complicating that of version. In order to separate it as a distinct affection, the practitioner has to proceed in the same way and by the same means as when examining for uterine version. He must not be misled by finding the cervix in its normal position. This is an error into which many have fallen. The cervix uteri is often high up in this form of deviation, and when the flexion of the fundus is behind or backwards, touching the vagina in some cases can give no indication of the presence of the displacement. I have found in such cases the only indication of the disease to be furnished by the increase of space in the anterior and upper part of the vagina. From the absence of the fundus, the finger is allowed to pass freely backwards and laterally to a much greater extent than in the natural position of the organ, which would arrest it. I have been enabled to suspect the presence of retroflexion by this condition, when no trace of the fundus could be felt in the posterior part of the vagina, because the finger was not long enough to be carried backwards to it. In antelexion there is much less difficulty. The fallen fundus can be readily felt bagging down the anterior wall of the vagina, and the finger may be carried from the os backwards, so as to trace the point of flexion with great distinctness. Still, I have known perfect integrity in the position of the cervix to mislead as to the existence of antelexion.

It is by the use of the uterine sound that all doubt regarding the existence of the disease is to be solved. By means of it, we can both detect and readily rectify the bend in the shape of the organ.

In anteversion, the sound must be introduced as though the womb was in its natural position. It will be promptly obstructed at the flexed point, when, by gently carrying the handle of the instrument downward in the direction of the sacrum, it will pass up in the fundus. The handle must be then raised, and the torsion will be rectified, and the whole organ properly placed in the pelvis. Where the bend in the organ is firm from hypertrophy, there is not usually more difficulty in passing the sound; in some cases not as much, in consequence of a preternatural open state of all the cervical canal.

In retroflexion, the sound has to be introduced in the cervix in the usual manner, and when it reaches the obstructed point it must be reversed, the rough side of the handle downwards, and at the same time slightly raised by elevating the handle. In this way it passes into the uterine cavity, indicates that the fundus is misplaced backwards, and, when it is reversed so as to bring the rough side of the handle uppermost, then the organ is rectified in shape and repositied normally.

The value of this instrument, after what has been previously said, need not be referred to here. I will only add that it has been used in the diagnosis of this affection in my practice, and almost daily, and yet I have never seen any morbid consequences arising from it that were not slight and temporary. Ordinarily, the use of the instrument produces no inconvenience whatever.

II. *The Constitutional Effects of Displacement of the Uterus.*—It has been already stated, owing to their frequent misconception, and to some degree of obscurity inseparable from their earlier symptoms, that many forms of uterine displacement are allowed to run on until they become chronic affections, before they are brought to the notice of the medical practitioner.

They are, then, most usually attended by a train of exceedingly distressing, varied, and complex constitutional symptoms. Remote organs appear to be prominently affected; severe symptoms, by mere sympathetic influence, are developed in distant parts of the body, which often have precedence in the minds of the sufferers over the primary disorder. It is a matter of the highest importance to be enabled to understand these symptoms, and to trace them to their true source. The gravest mistakes are of daily occurrence with regard to them. Severe local treatment is often employed, and persisted in, for symptoms which are not due to disease in the part or organ which manifests them, but to the sympathetic influence of a misplaced uterus. The general ill health, the functional disturbance of the nervous, digestive, and circulatory systems manifested in cases of the disease, are apt exclusively to engross attention. Too much stress, therefore, cannot be laid upon a point of so much importance, and I shall endeavour to point out the general symptoms which are excited by displacements of the uterus, and to explain their connection with these maladies.

The sympathetic affections which arise in the course of pregnancy, furnish

familiar examples of the extensive influence which the uterus exerts upon the whole system of the female.

During gestation, the functions of many important organs, and that of the whole cerebro-spinal system of nerves, are liable to be disordered and perverted. The morbid sympathies of the diseased uterus bear a close analogy to those arising in the organ from the irritation of pregnancy. They are just as extensive, as varied, and as complex, and moreover bear a close resemblance to them in other particulars. Dr. Simpson, in his admirable *Lectures*, cites the influence of the pregnant uterus on the general system, not only to prove how varied are its sympathies, but also to show, by the different ways these, though springing in all cases from precisely the same cause, are manifested in different women. This, he forcibly shows, is exactly the way with the diseased organ; precisely similar local diseases in the uterus hardly ever exert the same constitutional symptoms in two different cases. Since the diseased organ has such a wide range of action in which to exhibit its influence upon the general system, all of its effects require to be particularly noted, in order that we may understand them satisfactorily.

The constitutional effects of displacement of the uterus can be properly arranged and described as those: 1. Affecting the nervous system; 2. The digestive and assimilating system; 3. The circulatory organs.

It must be remembered that many of the general symptoms we are about to designate as being the result of this cause, may likewise spring from other forms of uterine disease, in which there is no displacement. To our present inquiry this fact is interesting in this way: it serves to prove conclusively the correctness of our reference of these symptoms to the cause specified. It shows that tumours within the walls of the organ, enlargement, or indeed anything which destroys the normal relations of the uterus with its environs, will, like its malposition, create constitutional disorders.

1. *The Sympathies of Uterine Displacement as affecting the Nervous System.*—This is by far the most important class of constitutional symptoms which uterine displacements create.

When treating of the local disorders which they induce, certain nervous phenomena were then mentioned as their usual symptoms, varying with particular displacements. These were just such as would be the result of the direct mechanical pressure of the malposed organ. They were physical in their character. The class now to be described are different; they are due to reflex action; the local irritation within the uterus, in a manner not necessary to be described, being transmitted through the spinal cord, to be felt in other and often in distant parts.

The physiological law governing this action is universally recognized. It is not only in accordance with the received views of pathology, but it is confirmed by many other instances of similar morbid action in other diseases. Of these, the pain reflected to the knee-joint in hip disease is an apt and

familiar example. The action of this law enables us to explain the varied and extensive nervous phenomena often accompanying displacements of the uterus. The morbid organ, through the spinal cord, is brought into connection with every part of the system, and all who have had much experience in these affections, know that there is scarcely any part of the body which may not become the seat of local nervous derangement. I have often seen this nervous disturbance move from spot to spot, in the same individual, in a very short time; and I have seen the moving of the uterus relieve it, entirely in some cases, in others change its location. Severe headaches are often relieved by the sudden translation of the pain to the pelvic region; and the very reverse as frequently occurs. I believe that there is not a link wanting in the whole chain of testimony in regard to the references of such nervous phenomena in women always to uterine disease.

A set of symptoms so extensive and so liable to vary in individual cases, of course it is not to be expected, if indeed it be necessary, can all be enumerated in detail. I shall content myself with only specifying the most common and prominent; and dwell particularly upon such as, from their severity and marked character, are liable to be mistaken for original diseases in the part in which they occur.

Those manifested within the neighbourhood shall first be noticed. Besides those nervous symptoms existing in the pelvis which we have elsewhere detailed, there are others which are to be classed among the reflected symptoms.

Vesical irritation is one of these; it is a symptom common to every form of uterine disease, either temporary or persistent. In version of the organ in either of its common directions, and in prolapsus in some of its stages, it is due to mechanical irritation; but in retroflexion, in prolapsus in its first degree, and in many other uterine disorders in which it appears, it cannot always be referred to that cause. This is the reason why this symptom is so unreliable, as specifying any particular condition of the organ. It may and often does exist in all morbid states of the uterus, and, when not purely mechanical in its origin, it is a reflex of the uterine irritation to the neck of the bladder.

The vagina, as has been stated, is usually relaxed to a morbid degree in most forms of uterine displacement, and there is, generally, if anything, an absence of normal sensation in its coats. But this is not always the case. Occasionally, the most exquisite sensibility is imparted to every part of the canal, from the labia up to the cervix uteri. I have seen cases when the introduction of the finger was so painful as to induce syncope, and have learned that coitus was accompanied by like result. Such cases are very rare, but they are met with; the condition being the result of uterine displacement; and are examples of the morbid sympathy of the uterus, reflected through the spinal cord to the part affected.

Many of the pelvic pains in uterine displacement belong to this class of

nervous symptoms, such as pains along the crest of the ilium above the pubis in the sacro-lumbar region, along the groins and down the thighs. A very distressing symptom, belonging to this class, which is occasionally present, is a pain located at the termination of the os coccygis. The constant uneasiness felt in the ovarian regions, most commonly in the left, is a symptom having in most cases a similar origin. It is often accompanied by chronic inflammation in that gland, as has been already mentioned.

Morbid sensibility of the skin of the whole abdomen frequently exists in uterine displacement. Some degree of tympanitis is also more or less common in these affections, and the two symptoms together form an assemblage which might lead to the belief that acute peritonitis existed. Dr. Meigs describes this state as a simulated peritonitis, and it is mentioned by most writers. I have seen it follow the introduction of the uterine sound, and have frequently had it occur in cases of chronic retroversion, soon after the organ had been replaced. The tenderness is often extreme, so that the patient will not permit the skin of the abdomen to be touched without a shriek. A similar painful and tender spot is often located on some one of the spinal vertebrae, and many a woman has had her spine blistered and pustulated, under the erroneous impression that spinal irritation existed, when she was only labouring under uterine irritation reflected to the skin of the part.

A constant pain in one or the other side, just under the edges of the ribs, originating in the same way, is found to attend on many cases of displacement. I have seen it in the right, when it was attributed to and treated for hepatic disease; but it most usually presents itself in the left side. This pain is often the source of great anxiety to the patient, not because of its severity, although at times it may be quite severe, but on account of its persistency. It often excites the apprehension in the mind of the patient that the heart is diseased.

Dewees mentions this symptom. It is often referred to a single spot; or it may be described as occupying the whole space along the lower edge of the ribs. I have seen it extend up among the intercostal spaces, so as greatly to annoy in respiration. It does not, however, exhibit always this latter condition. It is often unaffected by the motions of the chest, even in coughing or sneezing. One or both mammae are often rendered painful and sometimes tumid, from sympathy with a misplaced uterus. Pain and some degree of retraction in the muscles of the back part of the neck I have, as often as any other symptom, found attendant on uterine displacement, particularly retroversion. The patient describes it as a "drawing" in the back of the neck, accompanied by soreness and pain.

Many forms of headache exist in the disease under consideration. That which I consider as most diagnostic of uterine derangement, if not of displacement, is a pain located at the top of the head. Most headaches common in these affections are partly due to vitiated general health, but this one I consider as a genuine sympathetic pain from uterine disease, which may occur,

and often does in women whose general health is unimpaired. It is a pain which suggests pressure on the spot, for its relief, and is often accompanied by a feeling of coldness in the affected part. I have seen this form of headache instantly relieved by moving a misplaced uterus. Neuralgic pains all over the scalp are common in these affections followed by tenderness of the surface. Pains in the limbs and joints not unfrequently signify uterine displacement. I have frequently seen it accompanied with a numbness in one thigh down to the knee. The skin is often the seat of remarkable nervous manifestations, in cases of uterine displacement; the state of morbid sensibility already referred to as located on the abdominal surface, may appear in other parts of the cutaneous surface. A morbid condition, as it regards its temperature, particularly about the extremities, is almost universal. Cold hands and feet are always complained of in these affections. To the touch they are icy; in some cases they cannot be made to feel warm by artificial means.

Cough is a sympathetic symptom often created by uterine displacement. It must in such cases be referred to morbid nervous action reflected to the diaphragm. Its peculiarities are its loudness, its spasmodic character, its tendency to disappear suddenly and to reappear suddenly without obvious causes, and its freedom from expectoration. Still, its long continuance in a case should not be without exciting some apprehension of disease within the lung. We know that many of the subjects of uterine displacement are just in that condition most favourable to the development of phthisis, and that that disease often steals upon the practitioner unawares. Whilst I recognize the existence of a purely sympathetic cough in the class of diseases under consideration, yet I think there is greater fear of mistaking organic disease of the lung for it than the reverse. I have seen this mistake made by eminent accoucheurs who thought that exact physical exploration of the chest was unnecessary, inasmuch as the symptom could be explained by the condition of the uterus. I would always advise that the state of the lungs be particularly inquired into in such cases. I am satisfied that sympathetic uterine cough may coexist with organic disease of the lungs, and by examining the latter, serious errors in prognosis, as it regards the tendency of a cough in such cases, may be avoided.

The motor nerves are often disturbed in a remarkable degree in these affections. Often, there exists spasmodic twitching in the groin, the leg, the eyelid, and the abdominal muscles. In some cases, paroxysms of severe spasms in the general muscular system are frequent; in others a more chronic state, resembling chorea, will appear. I have seen the heart similarly involved in intermitting spasms, creating great alarm and anxiety in the mind of the patient.

Before detailing the mental characteristics of this class of uterine diseases, I will proceed to sketch briefly the remaining constitutional disorders common to them, inasmuch as they appear equally involved in their production.

2. *The Sympathies of Uterine Displacement as affecting the Digestive and Assimilating Functions.*—Depraved digestion and functional disturbance of the bowels sooner or later appear in all cases of uterine displacement. This latter symptom generally manifests itself from the beginning of the disease. In some respects, as we have elsewhere stated, it is due to local pressure of the misplaced organ. A constant condition, which the patient hardly ever fails to dwell upon in giving the history of her complaint, is preternatural enlargement of the abdomen. It is often the source of great anxiety, since it is considered as a state having some connection with the deep-seated neuralgic pains in the part. It is obviously the result of gaseous accumulations within the intestines from the derangement of their free and natural movement due to the displaced uterus. In early pregnancy, something of a similar state exists when it is no doubt due to a similar cause arising then in the natural increase in the volume of the organ.

The function of the lower portion of the intestinal canal, particularly, seems to be impaired in these diseases. Constipation most usually exists, yet in many cases there is a remarkable susceptibility to cathartic medicine. I have seen morbid relaxation of the bowels accompanying displacement; but constipation is by far the most frequent condition. This symptom generally persists and continues, resisting all systems of dieting or medical treatment which may be adopted for its removal. The dyspeptic symptoms usual in these diseases are those which arise from atony of the stomach.

In some cases, however, there may exist complete perversion of the digestive functions, and then acidity of a peculiar and remarkable character will exist. Everything swallowed, even a cup of tea, will return; so acid as to affect the teeth on touching them. This state of the stomach, with regard to its acidity, is certainly peculiar to uterine derangement. The stomach disorders will vary, in these cases, with the state of the local symptoms. A hearty meal, before or following exercise, or any course likely to increase the local distress, will invariably bring on disorder of the stomach and general sickness, ending in severe nervous headache.

The function of the liver is often disturbed, in cases of uterine displacement, by sympathetic action. Dr. Simpson mentions that, in some such cases, this disorder requires special treatment for its relief, which will not follow the removal of the original cause of it. Instead of being increased, the hepatic secretion is more frequently diminished; the liver is torpid and inactive.

The urinary secretion undergoes remarkable changes in this disease. In the same case, it varies often both in quantity and quality several times during the same day. Its change from perfect limpidity and great profusion to scantiness with sediment is often rapid.

The vitiated state of the function of these important organs seriously interferes with the nutritive and assimilating processes. General ill-health sooner or later follows, indicated by great feebleness, wan complexion, and sometimes a sallow skin, liable to become affected by different cutaneous eruptions of a scurfy nature.

A peculiar state of the tongue sometimes accompanies these diseases. The surface of the organ presents clean and red patches in a groundwork of white fur. Without being entirely denuded, the red parts appear cleaner of the ordinary fur than usual, giving the surface a variegated appearance.

3. *The Sympathies of Uterine Displacement as affecting the Circulatory Organs.*—After the first stages of these maladies, the inflammatory condition is seldom sufficient to give rise to fever, or other constitutional excitement of the circulation. Writers, however, speak of hectic as being the result of uterine displacement. I apprehend that when this does occur, it is due always to accidental circumstances. The production of such a result is not in accordance with the usual history of such diseases.

The combination most frequent which creates hectic irritation is pelvic cellulitis ending in suppuration. Organic disease of the misplaced uterus, or when established in its environs, may, from their long persistence, give rise to the same state of things. As a general rule, the circulation is not disturbed by inflammatory action, but it is most usually greatly disordered by a state of the system directly its reverse.

The capillary vessels are particularly liable to derangement in these diseases. Every one is familiar with the peculiar flushing in the face coming on without emotion or any other obvious exciting cause, which some women exhibit when suffering under uterine complaints. There is a feebleness in the organic forces which control these vessels, in some instances, which is very remarkable. I have seen a common sinapism, when allowed to remain only long enough to be felt, induce ecchymosis, which threatened to end in sloughing of the part. In such cases, the direct application of strong stimulants, the patients themselves have found upon experience, will prevent such a result.

Anæmia, with all its attendant disorders of the circulatory apparatus, is an exceedingly common condition in the victims of these diseases. It is, however, not universal, although there is usually a morbid state of the blood, which might be justly termed the uterine cachexia.

In this detail of the general constitutional effects resulting from uterine displacement, of course it is meant to be understood that all, or even a majority of the particular symptoms mentioned, is not likely to appear in any single case. It has been shown how the morbid state of the organ acts to induce them, and how wide and extensive is its field of operation; hence, it is easy to perceive that its constitutional manifestations must vary according to the circumstances of each particular case. We have the authority of Professor Simpson for stating, and it corresponds precisely with our own experience, that there is no rule by which we can judge what series of these general symptoms a particular form of uterine disease will develop. He has asserted that no two women, who are locally diseased precisely alike, are likely to manifest the same constitutional disorders. Nor is the sequence of these symptoms, with regard to each other, any more accurately suited. Generally, however, in the early stages of these diseases we have the circulation disturbed by the severe local distress and the nervous phenomena excited. When these have

continued long enough to vitiate and impair the digestive system, more extensive derangement of the whole system follows, and the mental characteristics before alluded to begin to show themselves in a more settled form. The mental and moral condition of women, suffering from uterine displacement, constitutes a peculiar feature in their history. The character of such patients undergoes a complete revolution. From being bold and confident, they become shrinking and sensitive, shunning company. The morbid impressibility of the nervous system becomes extreme; the daylight is distressing, and the slightest noise distracting. They soon lose all power of resistance in regard to even the least impression of a disagreeable character. They are overcome by the slightest annoyance. The least contradiction will create general nervous derangement, often violent paroxysms of hysteria. Their attendants soon find this out, and, in their dread of its consequences, study how to avoid all such impressions. These women are usually found petted and humoured, and this is the reason of it. It grows out of the necessity of their condition. Feeble, relaxed, incapable of exertion, denied in many instances, all outdoor exercise, they become a prey to morbid fancies and painful sensations of every kind. The slightest unusual feeling, such is their vigilance over their sensations, is at once construed into a grave and alarming disorder. To relieve this state of feeling many resort to the use of narcotic drugs, opium or some of its preparations, which ultimately plunge them into new sources of distress, and still farther deteriorate their general health.

This condition sometimes ends in insanity and often results in a state of mind little short of it. Many women, whom I have seen, have spent the best years of their life in a state like that just described, and one of their chief sources of distress often arises from the want of sympathy, which persons who are not constant spectators of their sufferings exhibit towards them.

The value of the constitutional symptoms of displacement of the uterus in their diagnosis requires some consideration. From what has been already said it will be seen that they point out a morbid state of the uterus, and nothing more. They serve, as Professor Simpson remarks, to locate the disease, but not to specify its character. Nor is there any correspondence between their severity and that of the disease in the uterus which gives rise to them.

It is by comprehending their connection with a local disease in the uterus, that the practitioner is placed in the right path to their successful treatment, inasmuch as this calls for an examination of the organ itself.

Treatment.—The treatment of uterine displacements is comprised in the general and local. The former has for its end the restitution of the general health; by the latter, two objects are sought to be obtained—first, the removal of structural changes and other morbid states of the organ; second, the correction of the malposition. The local treatment is fundamental; without it no permanent relief can be gained by any treatment directed to the general and constitutional symptoms. Their judicious combination, however, is necessary to progressive and rapid recovery. The value of the different objects to

be gained by the local treatment varies with different cases. Under some circumstances the removal of the lesion of position is often the best means of treating the local derangement of the organ, whilst under others precisely the reverse appertains.

Local Treatment.—The local treatment being of two kinds, the first we shall treat of as the *organic*, the second as the *mechanical*. In regard to the former, the exclusive use of such measures as tend only to remove structural and other lesions in the uterus is applicable only to those forms of displacement which such lesions appear to begin and perpetuate.

Organic Treatment.—It is in the treatment of prolapsus in the first degree that organic treatment is most valuable. As has been said, in that deviation, it is the diseased state of the cervix, which, by acting on the vagina, and through the general health of the woman on the perineum, creates the descent of the organ. I have witnessed proof of such a view of the displacement by the salutary effects of local treatment in many cases. The palpable indication in this displacement is to remove the disease of the cervix, and treatment should be adopted exclusively with that view. These measures must vary with the nature of particular cases, and they consist in the topical application of appropriate treatment to the cervix by means of the uterine speculum. To cure the ulceration, and to subdue the induration or hypertrophy, the application of the solid nitrate of silver should be employed, and in very obstinate cases the more powerful liquid nitrate of mercury. By these means the morbid induration of the tissues is resolved; their interstitial condition modified, so that they assume their healthy state. The manner of employing these remedies need not be particularly detailed. The ulcerated or indurated cervix should be freely cauterized from time to time, allowing between the interval just so many days as are required for the separation of the slough. When the nitrate of silver is used this will be about five days, when the nitrate of mercury about twice that number. The time required in this treatment depends a good deal upon the duration of the disease in the cervix. When this is recent, only a few weeks are required, but when of long standing, accompanied by induration of the whole cervix, as many months are often necessary. The treatment should be directed to the restoration of the cervix to its normal flexibility and volume, and should not be abandoned until this end is obtained. Often, after the first or second cauterization, amendment occurs, and before the change in the cervix is complete all local symptoms, and many of the general symptoms, subside entirely.

When there is still a disposition for the womb to descend and rest on the posterior vaginal wall, after the proper treatment of its cervix, I have then found a resort to other means necessary. This is required particularly, because, in such instances, if left alone, a relapse is apt to occur. Astringent vaginal injections, often employed, are of advantage in such cases; frequently their use is all that is necessary. A more effectual method of applying astringency to the relaxed part of the vaginal tube is that recommended by Whitehead, in his admirable work on "Sterility and Abortion." It is by

means of the prolapsus tube, an instrument which is figured in his work. By its arrangement, this instrument, when inserted, replaces the uterus; and upon its withdrawal pledgets of lint, soaked in an astringent solution, are left, just where the effect is required, at the very top of the vagina. (See *Whitehead on Abortion.*) The daily use of this instrument, when persevered in, will speedily overcome the tendency of the womb to descend.

By these measures alone I have conducted satisfactorily the treatment of all cases of prolapsus in the first degree which have come to my notice, aided by those general measures hereafter to be detailed. In regard to the local treatment of any morbid state of the organ occurring in prolapsus in the second and third degrees, there is but little to say. The diseased state is then most usually only the result of the malposition, and what treatment is necessary to subdue it, previous to its reposition, will be readily suggested to the practitioner.

The local treatment necessary in morbid states of the uterus in versions and flexions, should be that which is calculated to subdue the irritation in it, and in the adjacent organs, and to overcome the engorgement of the womb. For the former emollient vaginal lavements, the tepid hip-bath and anodyne enemata are required. In regard to the latter, there is more doubt, as it regards what is proper. The local and constitutional treatment usually adopted for the removal of local congestions and hyperæmia in organs, is not admissible in the majority of cases. The feeble, vitiated, and irritable condition of most women suffering from these deviations, precludes the use of antiphlogistic measures. Besides, such measures, if successful in removing engorgement, could not, from their nature, restore the malpositions; hence, a recurrence of the same state might be expected. This certainly corresponds with my experience of these diseases. I consider it, therefore, unwise to rely upon measures directed exclusively to the removal of the coexisting engorgement in version and flexion of the non-gravid womb. When associated with proper measures to maintain the uterus *in situ*, they become important, frequently indispensable, adjuncts. I do not believe that the misplaced uterus in either case tends to recovery, under any circumstances, without aid, in regard to a maintenance of its normal position. Often, indeed, such measures are absolutely necessary to secure any comfort to the patient. This brings us to the consideration of the *mechanical treatment* of uterine displacements.

The recommendation of mechanical means in the treatment of uterine displacements is coeval with the history of such diseases. It has only been in recent years that their value has been called in question, and their necessity denied. That they are often misapplied, and frequently do mischief, cannot be disputed; yet, I am one of those who believe they are indispensable. Their opponents have never urged any measures which, in my hands, have proved substitutes for mechanical support in the treatment at least of many forms of displacement of the non-gravid uterus. This any one who has had much experience in these diseases will, I am sure, corroborate. By these means alone, in many cases, is the relief of the patient to be secured.

A great variety of mechanical contrivances are in use in the treatment of uterine displacements. I shall not undertake to describe the different forms of apparatus which are recommended; there is a principle governing their employment which I prefer to unfold. When this is known, it will be easy to see what apparatus is best adapted to particular cases of the disease. The great end to be obtained is the restoration and maintenance of the vagina in its normal proportions. It has been shown how important a part this organ plays on the mechanism of every form of uterine displacement; and it must appear that, when it is by any means supported to its proper length and height in the pelvis, displacement will be rectified. The varying conditions of the rectum and bladder, and the difficulties attending their evacuations, the superincumbent weight of the abdominal viscera, and the successive forces constantly occurring from the diaphragm, all present obstacles which have to be guarded against. It is in these that the great difficulty lies, in the way of all mechanical means adjusted to support the uterus. These influences can only be held in check and permanently avoided by acting on the vagina. But we must act on this organ alone, and not through it on the womb; and this is the advantage of the contrivance it is intended to propose. Most means in common use create direct pressure against the uterus. Now all apparatus worn for this purpose must be continued in use for a long time; hence the liability of such to do injury to the organ. This is the source of the objections which writers make against the use of mechanical agents in the treatment of uterine displacements.

The form of pessary which I have long used, and found not only beneficial but entirely free from all objection, is that recommended by Professor Hodge, of the University of Pennsylvania. The instrument consists of two lateral bars, curved to correspond with the walls of the vagina, united at top by a rectangular bar. (see Fig. 3.)

Fig. 3.



Dr. Hodge's Pessary.

This instrument lying in the vagina maintains it in its original shape, and it is by doing that alone that it proves effectual in keeping the uterus *in situ*. It operates through the vagina, and rather presses away from than against the womb. It is, moreover, not liable to derangement, and readily permits the natural functions of all the pelvic organs to be performed without obstruction. It is worn without annoyance, and can be introduced and removed with great facility. From the principle of its action, it must appear that it is calculated to replace the womb, when displaced in any way. The principle is the only true one, in my opinion, and I am in the habit of using this form of instrument in every case of displacement where mechanical support is required. In retroversion, particularly, it is an invaluable agent; with no other have I succeeded so well in the removal of the distressing symptoms attending on that form of uterine displacement.

Its mechanism in the removal of retroversion must be obvious. It will be seen that the mere introduction of the pessary alters the position of the uterus

completely. The posterior wall of the vagina is kept so distended by the back part of the pessary, that instead of yielding, as before, it becomes the seat of a force which bears the fundus uteri upwards and forwards, throwing its cervix downwards in the vagina, and keeping it there. Its mere introduction, in fact, alters the position of the uterus from retroversion to that of simple prolapsus in the first degree; and it is by the distension of the posterior roof of the vagina to its normal dimensions that the organ is kept *in situ*, and not by any force exerted against it. This constitutes the great merit of the apparatus; it completely rectifies the displacement without the danger of local injury. When well adapted to the dimensions of the pelvis and vagina, it can be worn without annoyance for months or years; and such is the signal relief which patients experience from it, that I have known them to object to its removal, long after all tendency to displacement had ceased to exist.

The caution to be observed in retroversion is to secure the full extension backward of the posterior vaginal wall, so that the long diameter of the womb should be brought to look in the direction of the umbilicus. Without this, the weight of the womb, by the swaying backwards of the organ, might rest on the hindmost bar of the pessary; in which event, its pressure then would so bear up the two lateral bars, that their anterior ends would excite irritation at their terminations under the pubic arch. This is the only inconvenience in wearing the pessary, and it is to be avoided by having the fundus uteri thrown well forward, so that its weight will sway anteriorly instead of posteriorly. This objection makes it necessary in some cases to adopt measures to lessen the volume of the posterior uterine wall before applying the instrument. The reposition of the organ by the uterine sound, and a few days' rest in bed in an appropriate position, is often all that is required for this purpose. I have given complete relief in retroversion immediately by this instrument; in cases, too, in which all other measures had failed; and after a trial of most of the mechanical agents in use, including Dr. Simpson's stemmed supporter, I give it the preference, and rely upon it in my practice.

The globe pessary, highly recommended by some, in my experience aggravates the distress in retroversion; and the ring, and, indeed, all other forms of instruments in use, besides being less manageable, are ineffectual. I have used Dr. Simpson's instrument in one case; it could not be borne, and from its effects, I am not inclined to make a repetition of its use in this displacement, although it appears so admirably adapted to its treatment. The great advantage in the mechanical treatment of retroversion, is to have an apparatus answering the purpose that can be easily worn, and that for a long time, without endangering local irritation, and this is the merit of Dr. Hodge's pessary.

The principle governing the mechanical treatment of anteversion is the same with that of retroversion. The same apparatus may be used for maintaining the integrity of the vagina, as it regards its length and firmness, with the addition of a front bar, uniting the anterior ends of the lateral bars, in a similar manner with the posterior ends. Such a pessary appears as a par-

allelogram, having its lateral bars curved in accordance with the proper shape of the vagina. The use of the front bar is to support the anterior vaginal wall, making it pull against the cervix, so as to draw the fundus upwards and forwards.

Where mechanical treatment is necessary in flexions of the uterus, I recommend the same apparatus; because the indications, at least those which can be fulfilled by such means, are the same in these deviations. By steadying the organ, local congestion, upon which most of the distress in flexion depends, is removed, its recurrence prevented, and time is given for the bend in the womb to be rectified. In the case of ante flexion, alluded to in another part of this paper, I had the most signal success with the barred pessary. The patient, from being more or less bedridden, has become a strong woman, walking without annoyance, and never suffering from her womb complaints. The dysmenorrhœa has gradually been relieved, and the thinned parietes of the cervical walls, created by the flexion, have considerably filled up. She continues to wear the instrument by preference, and in time I believe the flexion will be permanently rectified. In retroflexion, from the principle upon which the instrument operates, there is a greater reason to expect decided benefit than in ante flexion, and such has been my experience.

In prolapsus of the second and third degrees, the apparatus constitutes an effectual and convenient method, as much so as any that can be devised for keeping the organ *in situ*. In bad cases its effects are much enhanced by proper perineal support. At the same time that it keeps the womb at its proper elevation, it allows of the free application of such measures as may be required to impart strength to the relaxed vaginal walls. Professor Hodge has his instruments made of silver, which are afterwards gilded by heat, and it is certainly the best material on account of its lightness and durability; yet the gutta percha furnishes an excellent substitute. I have modelled pessaries from this substance which have been used on an emergency; in cases requiring great nicety of form and arrangement, I have found it best to manufacture them of this material first, and afterwards use the model in forming the metallic one.

General Treatment.—The indications for general treatment in uterine displacements, are to *improve the digestion*, and to allay the *nervous irritability*. After appropriate local treatment, all these indications are best fulfilled by diet, exercise in the open air, and by change of scene. Proper out-door exercise and change of scene are indispensable in many cases. One of the greatest advantages of mechanical support arises from its affording opportunity for exercise. The influence of protracted journeys in curing uterine complaints has been long observed. It is by the stimulation of the mind in having not only a succession of new impressions, but some new pleasures every day to look forward to, that this result is attained. The monotony of home is a serious bar to recovery from the nervous affections in these diseases. For these symptoms there is nothing like variety and agreeable mental impressions, and as

improvement in them is generally followed by improvement in the digestive functions, advantage should always be taken of change of scene in their treatment. Residence by the sea-shore has been thought to increase the benefit arising from these changes. Certainly, systematic bathing is always valuable. The tepid shower-bath, in high states of nervous excitement, should be employed, gradually brought to cold as the patient can bear it. I use the cold shower-bath in the morning before dressing, and the tepid on going to bed. The greatest benefit arises from the systematic use of water in this way. As it regards diet, as a general rule, a plain substantial diet is best. Many cases bear well a generous diet, with porter, ale, &c.; but in others it will not be borne; when it is well borne I generally adopt it, since the indication in all these cases is to build up the general health as rapidly as possible.

The same thing may be said with regard to tonic and chalybeate medicines; when they can be used without exciting distress, their employment is generally valuable. But in many cases these agents cannot be employed. Such is the great impressibility of the nervous system, often nothing of the kind will be tolerated; a glass of wine even will induce unpleasant effects. In such cases we have to rely upon the slow and gradual influences of a well-regulated diet, bathing, and changes of scene. In cases of peculiar nervous excitability, accompanied with derangement of digestion, I will specify the nitrate of silver as being a valuable agent, given in half-grain doses daily or oftener, combined with small doses of rhubarb when the bowels are torpid. But generally the medical treatment of such cases has to be left entirely to the sagacity of the practitioner. Each case seems to require individual treatment. Certainly in all cases active medication is to be avoided; so is the protracted use of sedatives, and all other measures, palliative but not curative in their agency. It is the fault of such patients to demand relief—immediate relief—for their distressing sensations. This tendency should be guarded against; the use of narcotics and other agents which give relief, prejudice recovery; hence, their use should, in every case, be discountenanced as far as practicable. Agreeable changes of circumstances are better than anodynes in these cases. Besides the above general rules regarding the treatment of uterine displacements, there is an additional one of as great if not greater importance. Such patients, during their treatment, should abstain from the sexual congress. In the treatment of prolapsus in the first degree, this is fundamental. I have seen women with this form of displacement recover without treatment, upon sudden separation from their husbands. It has been frequently observed that women who had been unhealthy married, become robust as widows, and after marrying again become invalids. I believe that the abrasions leading to hypertrophy in the cervical neck in these cases often begin in the abuse of coition. In the treatment of all forms of uterine displacement, this measure should be insisted upon. The sexual organs require rest to recover their healthy tone; and it is not so much the physical injury of connection that is mischievous, as it is the tendency to perpetuate and increase their state of inertia and general debility.

ART. II.—*On Laryngismus and its Effects; and on Tracheotomy.* By MARSHALL HALL, M. D., F. R. S., Foreign Associate of the “Académie de Médecine” of Paris, &c. &c. A Lecture delivered at the Pennsylvania Hospital, on the 16th of April, 1853.

GENTLEMEN: I feel greatly indebted to one of your able teachers, Dr. Neill, for the invitation to address you in this theatre, on a subject which has for many years occupied my attention.

You are all acquainted with the principles of the *spinal system*, and its reflex actions. My present office is to point out to you one of its applications to the study of diseases of the nervous system, of which it affords, indeed, the means of *diagnosis*, and, consequently, the first step to all rational treatment.

All convulsive affections are affections of this sub-system of the nervous system. From their presence or absence we may judge, in the very first instance, whether the case can be one of the cerebral, of the spinal, or of the ganglionic sub-system.

Laryngismus is generally a morbid reflex action. It occurs in various diseases, as epilepsy, tetanus, hydrophobia; infantile and puerperal convulsions, &c. Whenever it occurs, it constitutes a most formidable symptom, and becomes the source of great danger, leading to cerebral congestion, asphyxia, &c.

I have had the great advantage, since my stay in the United States, of accompanying several physicians of great eminence to visit cases of epilepsy. There is no difficulty, after a visit of this kind, as to the views which I entertain in regard to this formidable malady. Everything is made plain by the plain and simple method I adopt in examining the patient so affected. This consists in the most cautious *questions*; the patient's replies are the *facts* of the case; no *opinion* is given; the *truth* is simply elicited.

The following table will place before you the kind and order of the interrogatories, the answers to which are faithfully recorded. The malady is traced, in this manner, to one or more of its causes; these lead to one or more of the effects here recorded. Whatever the statements of the patient, they are taken, with due precautions, to constitute *the case*, the character of which points as distinctly to the remedies and mode of treatment, &c.; the causes must be avoided; the effects must be subdued; the excitability or susceptibility to returns diminished by all the means we possess. All are here classified, as far as my present knowledge extends. Thus you are to *study* the subject, taking this table as your *guide*, until you can arrange something better for yourself:—

THE PHYSIOLOGY OF EPILEPSY, AND OF PAROXYSMAL APOPLEXY, PARALYSIS, MANIA, &c.

Inorganic Epilepsy and Apoplexy are caused by

I. Acting through the Diastaltic Spinal System—		II. Upon the Muscular and Venous Systems of the Neck, whence—**	
Causes.		I. Trachelismus, with—	
I. The Emotions— Excitement, Anger, Fright, Sudden Awak- ing, &c.	II. The Medium of Action.	I. Spasmodic Action—	II. Compression of
II. Certain Physical Causes— 1. Posture; Effort— Mental or Physical; Fatigue, &c. 2. Hyperhæmia; Anæ- mia; Cachæmia, &c.	Catastaltic or Direct— through*	II. Exodic Nerves; viz. 1. The Descendens Facialis— 2. The Descendens Myo- glossalis— 3. The Spinal Accessory— 4. The Spinal— (The Pneumogastric, with Palpitation, &c.)	I. The Platysma-myoid— 2. The Cleido-mastoid, the Omo-hyoid, &c.— 3. The Trapezius, the Scaleni, &c.— 4. The Subclavian—
III. Sleep—	Autostaltic—in*	1. The Recurrent Laryngeal— 2. The Intercostal— 3. The Abdominal—	I. The Arytænoid— 2. The Intercostal— 3. The Abdominal—
IV. The Irritations— 1. Dental— 2. Gastric— 3. Intestinal— 4. Ovarial or Uterine—	Diastaltic or Reflex— through { I. Eisodic Nerves; viz. 1. The Trifacial— 2. The Pneumogastric— 3. The Spinal—*	1. The Recurrent Laryngeal— 2. The Intercostal— 3. The Abdominal—	I. The Arytænoid— 2. The Intercostal— 3. The Abdominal—
V. Venus nimia, præsertim solitaria—			II. Laryngismus.

I. And pass into Inorganic Epilepsy, which may be divided into the—

I. Epilepsia Mitior, and this into

I. Epilepsia Evanesens, with

- i. 1. Obscure Trachelismus;
2. Oblivium, Confusion, Vertigo, &c.
3. Distortion of the Eyes, Features, Fingers, &c. &c.
4. Nutatio; Falling, &c.
5. Faintishness;
7. Oneirodynia;

II. Epilepsia Trachealea, involving the Spinal Accessory, &c., with

1. Aura; Flocci; Tinnitus; Odor Moschi, &c.
2. Manifest Trachelismus—Fixed Head; Torticollis; Obstipitas;
3. Spasmodic Aura?
4. Laryngeal, Stridor, Cry, Dyspnoea;
5. Bitten Tongue, Lip, or Cheek;
6. Foam; Rattles, &c.

1. Flushing;

2. Stupor;

3. Falling with Violence;

II. Epilepsia Gravior, and this into

I. Epilepsia Laryngea, involving the superior

- Laryngeal, &c., with
1. Trachelismus;

1. Purpurescence;
2. Stupor; Coma;

II. Spasmodic Laryngismus,

1. Dysepnoea,
2. Convulsion, leading to

1. Coma,

2. Stertor, with

III. II. II.

Augmented

Coma;

4. Mania,

5. Amentia,

6. Spasmo-

Paralysis,

7. Death.

II. Epilepsia Syncopealis, with

1. Pallor, Lividity;

2. Syncope;

3. Sudden Death.

Hidden Seizures; Mania; Crime!—undeserved

Punishment even to Death!

Augmented Spinal Excitability and Susceptibility to Attacks.

The Treatment should be

equally free from
Empiricism in both;
and consist in—

I. Avoiding

the exciting Causes;

II. Giving

1. Antacids;
2. Gentle Emetics?
3. Gentle but efficient

Aperients;

III. Attending strictly to

Posture;

IV. Subduing Excitement by

Hyoscyamus;

V. Subduing induced Suscep-

tibility by Strychnia;

VI. Removing organic Effects

by Mercurials;

VII. Restoring the general

Health, by Air and

Exercise, &c.; and be

founded on an adequate

Diagnosis.

VIII. Are there any Specifics?

** Irritation of the Medulla Oblongata, and Congestion of the Cerebrum—

II.

II. *Inorganic Apoplexy, which may be divided into the—*

I. Apoplexia Mitior,

and this into

I. Apoplexia Evanesceus, with

1. Vertigo; Confusion;
2. Paralysis of Speech; of the Fingers;
of the Side, &c. &c.

II. Apoplexia Gravior, or

Apoplexia Laryngea; viz.

I. Trachelismus;

1. Purpurescence;
2. Cerebral Congestion;
3. Stupor; Coma;

II. Paralytic Laryngismus, with

4. Stertor; from Paralysis by counter-
pressure of

1. The Medulla Oblongata, and thence of

2. The Pneumogastric, and espe- cially of

1. The Recurrents; with

5. Augmented Coma; of

2. The Pharyngeals, with

Dysphagia; of

3. The Bronchial, with

Râles, &c.

4. The Cardiac,

5. The Gastric, with corre- lative Derangements;

6. Death.

II. Apoplexia Trachelea, with

I. Trachelismus, denoted by—

1. Flushing, Purpurescence, and
2. Tumidity, of the Face and neck;
3. Vertigo, &c.
4. Stupor,
&c. &c.
5. Falling;
6. Paroxysmal Paralysis.

** Congestion of Cerebrum, and—

II.

The Treatment should be
equally free from Empiricism
in both; and consist in—

I. Avoiding the exciting Causes;

II. Giving

1. Antacids;
2. Gentle Emetics?
3. Gentle but efficient
Aperients;

III. Attending strictly to Posture;

IV. Subduing Excitement by Hyoscyamus;

V. Subduing induced Suscep- tibility by Strychnia;

VI. Removing organic Effects by Mercurials;

VII. Restoring the general

Health, by Air and
Exercise, &c.; and be
founded on an adequate

DIAGNOSIS.

VIII. Are there any Specifics?

Augmented Spinal Excitability and Susceptibility to Attacks.

I beg your particular attention to one of the means of cure, viz., tracheotomy. This means is proposed by me, *not for epilepsy*, but for *laryngismus and its effects*, in whatever disease these may occur; and, on this principle, for one particular form of epilepsy, viz., the *epilepsia laryngea*.

This proposition is *limited* to this form of epilepsy. In it, it *cannot* fail. That is, tracheotomy cannot fail to relieve *laryngismus and arrest its effects*. Now these are generally the direst effects of this dire disease: coma, impaired memory, and other of the mental faculties, perhaps mania. I do not mean to assert that these only result from the *epilepsia laryngea*; but I believe they chiefly result from this grave form of epilepsy, and that, if by tracheotomy the *laryngismus* be disarmed, these effects will be greatly arrested, whilst the effects of *former* attacks are allowed to subside, as they frequently have done in my experience.

Everything should be rational and nothing empirical in our proceedings, as far as possible. It is by physiology and science that our profession is to be raised. We must cease to prescribe for a name; we must first institute an accurate diagnosis, not only of the disease, but of the peculiar modification of the disease, and *then* adopt the *appropriate* remedies.

In the very first instance we must, in regard to epilepsy, distinguish between the cases of *organic* and of *inorganic* origin and complication.

Our next object is to ascertain the past duration of the disease; for I need not observe that it is formidable in proportion to its duration.

The next object is to trace the case to its exciting *cause* or *causes*. These are arranged in the first column of this table; they are such as act *directly* on the spinal centre, or such as act in a reflex manner; or, to express the fact in one word, diastaltically, through the reflex axes of which the spinal centre forms the middle part. The *emotions*, the *irritations*, are the usual first causes of epilepsy. An attack leaves, after a time, augmented excitability and susceptibility to subsequent attacks, which may arise from the same or from different causes.

You will next see, gentlemen, by this classification, through what *media* these causes act, and upon what *structures*. Your anatomy is fresh, and this part of the subject, which is difficult to the advanced practitioner, will have no difficulty for you. You will especially discover, at once, what muscles of the neck are called into action, what veins are compressed, in this *trachelismus*, and how *laryngismus* or closure of the larynx is effected.

With *laryngismus* you are all familiar. The most familiar form of *trachelismus* is seen in "*fixed head*," or in *torticollis*. *Trachelismus* is the cause of compressed veins, congestion of the face, tongue, neck, and encephalon; whilst *laryngismus* adds to them their *most* formidable character in the severest forms of epilepsy.

These conditions lead us to their ulterior effects, in epilepsy or apoplexy. For I now take the opportunity of stating that *inorganic* epilepsy and *inorganic* apoplexy, and, indeed, *inorganic* paralysis, and *inorganic* mania, may

be, in reality, but different phases of the same disease. Does not a severe epileptic seizure leave a state of coma or apoplexy? Does not this sometimes pass into a paroxysm of mania? Is there not sometimes paralysis of limb, or of intellect? I leave these questions to your future experience; I know what that experience will teach you.

In this place I beg to observe that an epileptic seizure taking place from home, and amongst strangers, or in the night, may remain *hidden*. The effects of the fit are then very puzzling to the physician. The symptoms may be those of cerebral disease. In one case they were mistaken for arachnitis, the patient being maniacal. In another case the patient was observed to come down stairs with an altered manner; the servants would observe, "Our master is odd to-day." It was not until he got married that the cause of this was ascertained. It was then ascertained that he had occasional epileptic seizures in the night. At length it was necessary to take this patient to a lunatic asylum.

It may be that the mania resulting from an epileptic seizure may lead to homicide or suicide. Such a seizure may, therefore, issue in the commission of a crime, and the poor patient may be tried for his life, may suffer the last penalty of the law, as a remote consequence of this already dire malady. In a late visit to the Pennsylvania Lunatic Asylum, I had the pleasure of meeting Judge Lewis. I mentioned these views to him, and was most agreeably surprised to find that the possibility of such an event had not escaped him. The subject should be most accurately investigated.

When epilepsy does not include the more formidable symptom of laryngismus, I have denominated it the *Ep. trachelea*: there is a flushed countenance, a tumid and rigid, and perhaps distorted neck; the patient may fall;—it is then paroxysmal apoplexy as well as epilepsy;—or he may suddenly lose the use of the fingers, so that he cannot write, or of the lips, so that he cannot speak, or of the side; it is paroxysmal paralysis; or he may become affected with a momentary oblivion or delirium. So varied are the forms of epilepsy!

I trust I need not tell you that it is *not* in such cases that I should think of proposing tracheotomy. Yet it has become necessary to guard the proposition for the use of this measure. It has been said that I recommend its adoption for the cure of epilepsy. I do no such thing. I strongly urge its use in all cases, whether of epilepsy or of apoplexy, of tetanus, of convulsions, of hydrophobia, &c., which involve laryngismus with its effects, apoplexy or asphyxia. In these cases its efficiency is at once rational, pointed, and indubitable. Fail it cannot. It may be inaptly applied from a faulty diagnosis. But if there be laryngismus and its effects, these effects are and must be obviated by tracheotomy; and apoplexy, asphyxia, and all other more formidable symptoms of the *Ep. laryngea*, must be prevented. These being prevented, the injury done to the spinal centre may subside, and the subsequent attacks may wane away.

In *this* table you will see that, after epilepsy, I have treated of apoplexy in its connection with the *causes* and their *mode of operation*. This may occur *with* or *without* the epilepsy. In the latter case it constitutes the “*simple*” apoplexy of Abercrombie, the “*congestion cérébrale*” of Andral. Let me beg you to trace the influence of the attack on the various branches of the *pneumo-gastric* nerve. Through its agency, or rather by the subtraction of its influence by a species of paralysis, or even a paralytic kind of laryngismus, or *stertor*, dysphagia, bronchial rattles, gastric and hepatic derangements are induced. This paralytic laryngismus impeding respiration, leads to augmented coma, &c., and may prove fatal; an event avoided again by *tracheotomy*!

Gentlemen, no patient should suffer loss of intellect in *epilepsia laryngea*, no patient should suffer loss of life in *apoplexia laryngea*—always presuming that the case is of inorganic origin, and still without organic complication—without the hope, the benefit, conferred by tracheotomy.

But I must hasten to draw these observations to a close. Before I do so let me say, that the honour attached to the first proposition of tracheotomy in laryngismus, is due to a physician of this very city, and of this hospital, the late Dr. Physick. Dr. Physick observing the struggle for breath in hydrophobia, was led to this proposition in any future case of that most dire of human maladies.

The notice of this singular fact leads me to observe that just *observation* and just *theory* (I speak not of vague hypotheses) will always meet and eventually aid and illustrate each other. Dr. Physick was led by the appearances observed, I have been led by physiology, to the same conclusion. I have generalized the proposition; and I have endeavoured carefully to explain and guard the use and the abuse of this heroic means of cure.

I will conclude by an illustration of this subject drawn from experiment.

I administered to a dog one-sixth part of a grain of the acetate of strychnia, repeating the dose in fifteen minutes; five minutes after the second dose, symptoms of tetanus, or rather of hydrophobia, appeared. Spasms were produced by the slightest excitations. The effect of these excitations was soon fatal.

I treated a second dog in the same manner; but, instead of exposing it to causes of excitement, I placed the animal so that he was secure from all disturbance, mental or physical; he was perfectly well the next day!

We thus learn a lesson in the treatment of tetanus and hydrophobia. *All excitement must be avoided absolutely.*

I gave to a third dog a third dose; this animal, without *external* excitement, died in a violent fit of *laryngismus* and asphyxia.

I placed a fourth dog under similar circumstances, and performed the operation of tracheotomy. This dog appeared well the next day, but would not take food or drink. It had been rescued from the laryngismus and its fatal effects! It died the next evening, I believe, from exhaustion of the energies of the spinal system.

These facts again teach us what measure we ought to adopt in the treatment.

ment of cases involving laryngismus and its formidable effects; *tracheotomy ought to be efficiently performed.*

And this remark leads me to present to you those tubes which have been made to keep the orifice into the trachea patent. They are only one-fourth of the area required for efficient tracheotomy. When this operation is performed efficiently *the voice is extinct*; the patient can only articulate in a whisper. This is the criterion.

I have prepared a little instrument since I came into this theatre which I beg to propose as a substitute for the *tube*. It is, as you see, a *cage* of silver wire. It is made so that it can be compressed when it is required to be introduced and to be removed to be cleaned and reintroduced. When introduced, it cannot be removed, as you observe, without being compressed; and it may at any time be enlarged or diminished in size.

The operation may also, I think, be performed without *cutting*, except the mere division of the skin. An instrument like the dissecting forceps brought to a point, is to be made to pierce the trachea, and then to be dilated so as to admit of the introduction of the cage. The tissues easily yield to this *stretching*. It is *tracheotomy* (from *τείνω*, to stretch), instead of *tracheotomy* (from *τέμνω*, to cut). I am satisfied of the feasibility and facility of this mode of making an efficient tracheal opening, and the tissues of the trachea are little disposed to take on inflammatory action.

I think other applications may be made of this principle. I scarcely dare suggest that lithotomy might take place of lithotomy or lithotritry, being performed above the pubes. Perhaps, however, the suggestions may deserve to be subjected to anatomical inquiry.

I have but one final observation to make: it is, that I am anxious to see our noble profession rescued from mere empiricism, and guided by an enlightened physiology. In this class of diseases of the nervous system, physiology is the source of all diagnosis and rational treatment. To me a case of this kind has long been as an *experiment*, not performed, indeed, but presented for observation; and I have been much aided in my inquiries by inducing lesions of the nervous system experimentally with the same object of observation, in regard to the diagnosis and treatment. In a word, I am of opinion that medicine should be founded on physiology and diagnosis.

It now, gentlemen, only remains for me to thank you for your kind attention, and wish each of you a prosperous and distinguished career in our noble art and science.¹

¹ I have been much gratified by reading the case of Dr. Neill, in the January No. of this Journal (p. 274). The operation fulfilled every object, and the death of the patient remained unexplained. Dr. Neill has reason to believe, however, that the tube had been expelled from its place in the trachea. A more ample tube, more securely fixed, might have been attended with a better issue. The attacks had assumed a mitigated or *abortive* form, and the patient's intellect was already improved. The case was most appropriate for the operation, and the operation was not without great encouragement for the future.

ART. III.—*On Hermaphroditism; with an Account of two remarkable Cases.*

By GEO. C. BLACKMAN, M. D., Fellow of the Royal Medical and Chirurgical Society of London. [With a wood-cut.]

THE subject of hermaphroditism is one of interest and importance viewed in connection with canonical and civil law, as well as with physiology and surgery. In canonical law, we need but allude to its bearings upon the ordinance of baptism; whilst, in civil law, it may affect the rights of property, the question of impotence or sterility, and the avocation of the individual in whom it exists. The time has been when the hermaphrodite, that *fedum ac turpe prodigium* of the AURIS PICES of HETRURIA (vide, *Tit. Liv.* ii. l. 27), or the SUPPOSED hermaphrodite, was condemned by inhuman and arbitrary laws to the gallows or the flames. Even to this day, such an individual, when known, is exposed to public derision and ignominy; and, if possessed of ordinary sensibility, their lot among mortals is least to be coveted. The deformity in many of these SUPPOSED cases, as, for example, those which are nothing more than instances of hypospadias with a cleft in the scrotum, are doubtless capable of being remedied by surgical operation, as was, indeed, proposed by Langenbeck, in the famous case of Götlich. In view also of the sufferings to be apprehended from ungratified sexual desires, in persons with organs so imperfectly formed, and for the timely prevention of such sufferings, has the extirpation of the testicles been recommended and executed by one of our own most prominent surgeons. (Vide *Amer. Journ. Med. Sci.* Oct. 1852.)

But it is especially in relation to the morphology of the genital organs that the study of hermaphroditism is at the present time possessed of peculiar interest, and it is admitted that, in this respect, the subject requires a fundamental revision. The analogy existing between the male and female organs of generation was recognized both by the Greek and Arabian physicians, as is shown in the writings of Galen, l. 14; Rhazeus, *de re Med.* l. i. c. 26; Paulus Ægineta and of Avicenna, l. iii. f. xxi.; *de Memb. Gen.* in Mulier, &c.; and it is maintained, even by the most distinguished modern authors, that of these analogous organs, no two were ever found in the same individual. Adelon declared, before the Academy of Medicine in Paris, that there never was a coexistence of the parts belonging to, or characteristic of either sex, in one being. In the *Ed. Med. Surg. Journ.* vol. iii. 206, a reviewer of Ackermann's *Infant. Androg. Hist. et Iconog.* (Jena, 1805), boldly asserts: "No monster has been described, having both a penis and a clitoris, nor with a testis and ovarium of the same side, we may venture to say with testes and ovaria, nor one having a prostate and uterus."

Leuckardt observes: "The numerous instances of androgyni for the most part depend upon an excessive development of this structure [the vesicula pros-

tatica] in the male individual—associated with some other abnormal occurrences in the development of the uro-genital canal and the penis, which appear (the *italics* are our own) at the same time, according to the law of coexistence." (Todd's *Cyclopedia of Anatomy and Physiology*, Part XLII. p. 1425.) The presence of Fallopian tubes in the so called androgyni, he believes to be very rare; and thinks that, perhaps, it has hitherto been observed with certainty only in the bull, as reported by Mascagni. (*Atti di Siena*, vol. vii. p. 201.) What are usually thus called, he remarks, are but the prolonged horns of the uterus, which, as we have seen, he regards only as an excessive development of the prostate or rather vesicula prostatica.

Beck, in the last edition (1850) of his *Medical Jurisprudence*, vol. i. p. 15, alluding to the supposed coexistence of the uterus and the prostate, states as his belief, that, in repeated instances, the part deemed a uterus is a malformed prostate, and that the opinions expressed by the reviewer of Ackermann, already quoted, are calculated to lead to more correct views upon the nature of supposed hermaphrodites. At page 142, he thus still more strongly expresses himself: "All the cases of supposed hermaphrodites are either males with some unusual organization or position of the urinary or generative organs; or females with an enlarged clitoris, or prolapsus uteri, or individuals in whom the generative organs have not produced their usual effect in influencing the development of the body."

The views entertained by Leuckardt with respect to the nature of hermaphrodites, and which we have already cited, seem to be those most generally received among modern anatomists and physiologists, and, in the opinion of many, they afford a new and secure basis in determining the analogy—the common plan of structure—of the male and female organs. The morphological import of the vesicula prostatica, for the discovery of which organ we are indebted to Morgagni, was first recognized by E. H. Weber, and the opinions of the latter have received the assent of Huschke, Theile, Hausmann, Bergmann, Leydig, Leuckardt, in Germany, Duvernoy, in France, and Adams, in England. Before we present the facts in our possession, which we think are sufficient to subvert the views promulgated by Prof. Weber, and adopted by so many eminent authorities, we will present a few others which we have been able to find, and which bear directly upon the point in question.

Petit has declared that he was once consulted by a man who passed blood by the penis every month, without pain or troublesome symptoms, and he suggests that this man might have had a concealed uterus. (*Hist. de l'Acad. Roy. des Sciences*, 1720, p. 38.)

An individual by the name of Durge, died at Bonn, in 1835. This person, during life, was pronounced by Osiander, Kopp, Sæmmering, Sir Astley Cooper, Messrs. Lawrence and Green, as well as by the medical faculty of Paris, to be a male; yet, when twenty years of age, there was, on three different occasions, discharges of blood from the genital organs.

In examining the body, a withered testicle was found on the right side, with a penis and prostate gland; on the left, an ovarium, with a uterus, vagina, and Fallopian tube.

A case is reported by Dr. Harris, of Clarksville, Virginia (*Amer. Journ. Med. Sci.* July, 1847), in which a person menstruated through a short but naturally-formed penis; and Taylor, in his *Medical Jurisprudence* (2d Amer. from 3d Lond. ed. p. 495), alluding to this case, remarks, that the fact that the being menstruated, was here sufficient to assign it to the female sex. For the same reason, he would refer to the female sex the famous case of Suydam, of Salisbury, Conn., in which the person was pronounced by Dr. Ticknor and Dr. Barry to be a male, as he had a penis and one testicle, though he had also regular catamenia! The insufficiency of this reason we think will be obvious after the examination of Prof. Akeley's extraordinary case, which we shall presently detail.

Prof. Simpson, of Edinburgh, in his very comprehensive article on hermaphroditism, in the *Cyclopaedia of Anatomy and Physiology*, states that he has been informed, on credible authority, of two instances where in males the menstrual discharge was perfectly regular in its occurrence, and considerable in quantity. One of these persons was seventeen years of age, the other had been married for several years, and his wife had no children. Prof. S. inquires whether the discharge in these cases consisted in a periodical hemorrhage from the urinary bladder, or passages only; or was it, as supposed by Petit, in the instance which came under his observation, of a true menstrual character, and produced by the reproductive organs of the female existing internally, and communicating with the bladder or urethra? The solution of these questions, we think, we shall be able to furnish; previous to which, however, we will briefly relate a case which came under our own notice some four years since, at the Northern Hospital, Liverpool. The individual to whom we allude, served as a sailor on board the American merchantman Rappahannock. This person was about thirty years of age, and with the exception of the breasts, which were large, had the general appearance of a male. The penis, however, was short, and the scrotum somewhat cleft, so as to resemble in some respects the external labia of the female. At the time of my examination menstrual blood was passing through the penis, and we believe this was a regular monthly occurrence. This individual preferred the society of females, and always in the month of March felt strong desires for sexual intercourse with them! This had been once effected, but having then contracted the venereal disease, the act had not been again repeated! There was a mystery about this case which until recently we could never solve. Circumstances, however, have lately placed us in possession of facts of a somewhat similar nature; but in the latter instance an autopsy, made by one of our most eminent surgeons and anatomists, revealed a state of things, the existence of which has hitherto been deemed impossible, and which alone, in my opinion, can explain the extraordinary menstruation in the sailor just

mentioned, together with the instances referred to by Petit, Prof. Simpson, Dr. Harris, and Dr. Barry. To Dr. Horace A. Ackley, the distinguished Professor of Surgery in the Cleveland Medical College, Ohio, are we indebted for the cast from which the engraving accompanying this article is taken. The parts from which the cast was made we have ourselves most carefully examined. They were removed from a person about twenty-six years of age, who for some years had acted in the capacity of a servant to Dr. Mills, of Cleveland, now deceased. The history of this individual, as kindly furnished us by Prof. Ackley, is briefly as follows: Stature large; external conformation, with the exception of the hips, male; beard moderate; penis large; scrotum of natural appearance, but empty; habits solitary, and had a dislike to women; menstruation *per penis* monthly; this was always attended with much suffering, and during one of these menstrual periods he died, from cerebral congestion. After death, the body found its way to the Cleveland

Fig. 1.



Medical College, and when Prof. Ackley commenced its examination, he had no suspicion of the wonderful disclosures about to be made, as the above history was to him then unknown, and only subsequently obtained from the physician to whom we have above alluded, and who, as already stated, is now dead. The accompanying figure will give a better idea than any mere verbal description of the parts found on opening the body; and we shall only add that they have been turned over and the vagina opened from behind. Fig. 1, penis; 2, empty scrotum; 3, prostate gland; 4, vagina; 5, os tincæ; 6, uterus; 7, bladder; 8 and 9, right and left Fallopian tubes; 10 and 11, right and left testicles; 12 and 13, right and left ovaries; 14, rectum; 15 and 16, right and left vas deferens. The vagina, it will be observed, opens into the neck of the bladder, and thus communicates with the urethra; its inner surface was reddened, and its cavity contained menstrual blood. The Fallopian tubes were pervious. Excretory ducts of the testes were perfect. From the natural size and appearance of the prostate gland it is quite apparent that the excessive development of the vesicula prostatica, or Weberian corpuscle, has had but very little to do in the formation of this male uterus.

Here, then, we have an example of a monster with a testicle and ovary on each side, and with a prostate gland and uterus, the coexistence of which in the same being has been so flatly denied by the writers whose names we have mentioned. We have also the presence of real Fallopian tubes, which Leuckhardt believes to have been observed only in the bull, as reported by Mascagni. (*Atti di Siena*, vol. vii. p. 201.) What have been supposed to be such, he thinks were merely the prolonged horns of the uterus, which again, as we have seen, he considers but an unusual development of the vesicula prostatica. In Prof. Ackley's case no such mistake as this can possibly be made.

Petit has given the particulars of the case of a soldier who died from his wounds, and in whose body, on dissection, was found the same duplicity of organs as was found in that examined by Prof. Ackley. In this instance, however, the uterus was attached to the neck of the bladder, into which it opened between the neck and the prostate. Here, the uterus was formed independently of any excessive development of the prostate gland; both organs, indeed, well formed, coexisting in the same individual.

Harvey too examined an embryo in which a two-horned uterus existed, with two testicles of very small size, and a diminutive penis, near which were some traces of a prostate gland.

In the *Journ. Hebdom. de Méd.* tom. x. p. 466, Bouillaud has detailed a case examined by himself and Manec. The scrotum was empty. A well-formed prostate gland surrounded the origin of the urethra. A uterus occupied the usual situation of that organ in the female, and opened inferiorly into a kind of vagina, two inches long, and which entered by a narrow orifice into the membranous portion of the urethra. In this case, with the exception of opening under the glans, the urethra externally was natural.

Prof. Eschricht, of Copenhagen (*Müller's Archiv. für Anat. u. Phys. Heft ii.*), has reported a case in which the penis and scrotum were well developed, though the latter, as usual in many of these cases, was empty. Internally, there was a uterus, with Fallopian tubes and ovaries. The uterus was firmly attached by its imperforate neck to the posterior walls of the urinary bladder.

Prof. Vrolik has represented, in plates 94, 95 of his magnificent *Tabulæ ad Illustrandam Embryogenesin Hominis et Mammalium, &c. &c.*, an hermaphrodite in whom this duplicity of sexual organs existed internally. On turning aside the bladder "*est uterus in vaginam transiens ad ejusque latera ligamentis latis præditus. Ex ejus angulis proveniunt fasciculi cylindrici qui tubas Fallopianas referre videntur.*" On the right side were both testicle and ovary; on the left side they were indistinct. Penis of middling size, but glans imperforate. There was no trace of the prestate or vesiculæ seminales. From the absence of the prostate in this case, as well as that when a male uterus was found by Columbus (*De Re Anat.* lib. xv. Venet, 1559), and, if we mistake not, in that reported by Aokermann (*op. cit.*), those who believe, with Weber and Leuckardt, in the morphological import of this gland, may discover an argument in support of their views, but how will they dispose of the cases of Petit, of Bouillaud and Manec, of Harvey, and, lastly, of the well-attested example of Prof. Ackley? Leuckardt remarks that it was in view of the situation and connections of the vesicula prostatica, together with its form—as in the beaver—that Weber was induced to form his opinions of the morphological equivalent of this gland. The fact noticed also by Creve (*Bruchstuecke sur Vergl. Anat. und Phys.* p. 41), that after castration in the boar, the prostate gland, as well as the vesiculæ seminales become augmented one-third in volume, has likewise been deemed an argument in favour of the homology of the prostate and uterus. With such facts before us, however, as those offered by Petit, Harvey, Bouillaud and Manec, and especially by Prof. Ackley, we find it impossible to embrace a theory which has found so many able supporters as has that first promulgated by Prof. Weber. Indeed, when we glance at the various opinions respecting the laws of formation of the sexual organs which have been entertained from the time of Aristotle to St. Hilaire—be it Geoffroy or Isidore—or even down to Dr. Knox, with Vrolik, in view of his extraordinary case, we are tempted to exclaim: *Lubenter fateor in re meas non sufficire vires!*

NEW YORK, Feb. 1, 1853.

ART. IV.—*Extracts from the Records of the Boston Society for Medical Improvement.* By WM. W. MORLAND, M. D., Secretary.

February 14.—Poisoning by Aconite.—Case reported by Dr. PUTNAM.—The patient swallowed, by mistake, a teaspoonful of the saturated tincture of aconite, at 7 A. M. Not being fully aware of the danger, she merely took a Seidlitz powder. In fifteen minutes, had retching and burning pain in the stomach. Ipecacuanha was immediately administered, by which she was freely vomited. The skin was at this time cold; pulse 100, feeble, regular; fingers spasmodically extended; convulsions of whole body frequent, but of short duration; mind not particularly affected. Friction, with ammonia, mustard, &c., assiduously employed; copious draughts of arrowroot; occasionally, brandy and water, and spirits of sulphuric ether.

Three hours afterwards she continued to complain of burning pain in the stomach and bowels, but not so severe; pain in throat and thorax, and in lower half of spine; almost incessant retching and spitting; respiration irregular, spasmodic; pulse feeble, 120, intermitting after every second stroke. Had just had one general convulsion, lasting about five minutes, and there were frequent slight spasms of various parts, especially of the fingers. Pupils dilated, but contractile on exposure to strong light. Mind clear. Tinct. opii, gtt. xx; to be repeated occasionally.

Immediately after taking the laudanum she became more comfortable—the spasms and other symptoms less severe. At night, the pulse had become regular, and on the next day she was apparently well.

Ingestion of four grains of Extract of Belladonna and four of Opium, by a child nine years of age, without injury.—Dr. COALE reported the case. The child swallowed two suppositories, each containing two grains of the above-mentioned narcotics. It went to sleep not long after; the mother awoke it, at the end of four hours, with much difficulty, when very free vomiting ensued, producing great exhaustion. The drugs were taken at noon, and at 7 P. M. the child seemed only a little fatigued and sleepy. It had eaten dinner immediately before swallowing the poison, and Dr. C. supposes it possible this may have retarded absorption.

Jaundice terminating in Hemorrhage and Death. Closure of the Cystic Duct.—Dr. GOULD reported the following case: A daughter of N. T. H., aged about three years, became deeply jaundiced in the early part of January, but was readily relieved, in three or four days, by mercurials and warm baths. After an interval of about a week, the fecal discharges became again clay-coloured, and the skin yellow. Similar remedies were used for a few days without success, the yellowness of the skin becoming very intense, and no discharges were obtained from the bowels. Leeches to the epigastrium, baths, mercurials and enemata were continued until, after four days, profuse green discharges suddenly supervened. A few hours afterwards, vomiting of bloody fluid began, which took place every twenty or thirty minutes for about twelve hours, when she died. She had gradually become comatose, and had had convulsions for a day previous to the purging. The duration of the last attack was only eight days. A younger child had also been jaundiced a few weeks previous.

An imperfect autopsy was made. The mucous coat of the stomach was

stained, but showed no lesion or congestion. The liver appeared healthy, and there was, at the time, no obstacle to the flow of bile through the ductus communis. The gall-bladder was distended by a clear honey-like fluid, and the cystic duct was found to be permanently closed; on following it down from the gall-bladder, it appeared, at its termination, as if it had never been pervious.

The case was mentioned as an additional example of the occurrence of hemorrhage, from some quarter, in cases of severe jaundice. Closure of the cystic duct, where the gall-bladder is well developed, must be rare.

Dr. Gould also related the following singular facts:—

Fever—power to articulate replaced by inclination to sing.—F. H., aged nine years, was attacked with headache, pains in limbs, loss of strength, &c., about the 17th of January. Visited on the 21st; was then very delirious, and continued raving for the next three days, at which time he fell asleep; awoke calm, and had no recurrence of delirium. He was attended until the end of February, and recovered. The following peculiarity existed, in a day or two after the delirium ceased: He lost the power of articulating words so as to make known his symptoms or his wants, although he seemed to be perfectly conscious, and always promptly made an effort to answer every question. Sometimes he would succeed in spelling a word, when he could not utter the word itself. At the same time, he commenced humming tunes, repeating the same tune an indefinite number of times, and only ceasing when he fell asleep. On awaking, he would at once resume singing, and when asked a question, would suspend it long enough to attempt an answer. This continued for two weeks, night and day, when the singing ceased, in the space of a couple of days, and the power of articulation returned in the same proportion. The pulse, during this time, seldom rose to 60. He had appeared, during the whole time, to be quite rational; but on recovery was wholly unconscious of the suspension of the power of speech, and was greatly amused at the account given of his musical performances, of which he had no recollection whatever.

Purpura Hemorrhagica occurring in the last stage of Phthisis.—Reported by Dr. E. W. BLAKE.—Sarah S., æt. 15 years, had been delicate from childhood, pale, and leucophlegmatic in appearance, subject to frequent and severe attacks of epistaxis, rendering the administration of iron and a general tonic treatment advisable; had never menstruated, but subject, for the last eighteen months, to leucorrhœa, the discharge being increased at the proper menstrual periods. The epistaxis, too, had latterly assumed a periodic form, occurring with considerable regularity every four weeks. In July last, symptoms of phthisis appeared; which disease was soon developed, and pursued a rapid course. At this time, though of unusual stature for one of her years, and emaciation scarcely commenced, she weighed but sixty-three pounds. As a fact of some interest, it may be mentioned that at no time during her illness was there the slightest bloody tinge in her sputa, nor did she complain of pain, soreness of the chest, or any uncomfortable feeling. Until the latter part of January following, she was about the house, when increasing debility (diarrhœa had taken the place of night-sweats), compelled her to keep her room, and, for the most part, her bed. Epistaxis was now a daily occurrence, thus adding to her weakness. Saturday, February 5, was observed unusual and remarkable pallor of the mucous surfaces of the lips, tongue, and fauces. The day following, Dr. B. was summoned in haste, her friends being alarmed by the discovery of “black spots upon her breast.” On examina-

tion, were found, scattered over the thighs, sternum, and breast, purpuric spots, irregular in form, and varying, in size and appearance, from red petechiæ to yellowish and livid ecchymoses; these had doubtless existed for some time before being noticed. Lips, tongue, &c., now presented a still more blanched appearance. On Tuesday, successive patches coming out in the mean while, there occurred hemorrhage from the bowels, after which she sank rapidly, dying early Wednesday morning.

Encephaloid Disease of left Testis.—Dr. G. H. GAY presented the specimen, which was taken from a person thirty years old, a painter by profession. The following is Dr. G.'s account of the case: The patient states that, up to the time of the operation, Feb. 7, 1853, he had always enjoyed good health, and that his attention was first directed to the affection two years ago, by accidentally feeling that his left testicle was somewhat larger than the other. But as there was no pain accompanying it, no soreness, nor any inconvenience, he took no particular notice of it. It steadily but slowly increased in size, till within six months; since which time a more rapid enlargement followed, without any known especial cause.

There never has been any pain, except after "taking cold," when everything seemed to centre there, causing a temporary increase of the swelling of the testis and of the whole left side of scrotum; and at those times it was less a pain than a heavy, dragging ache, from the size, weight, and inconvenience of the enlarged organ. In appearance, it was less pyriform than a hydrocele, more cylindrical, four inches in length, and two and a half in thickness and width; smooth, and without irregularities; of a soft, elastic, yielding feel, very much like that of fluctuation. In swellings of this consistency, it is exceedingly difficult to distinguish a soft, yielding solid, elastic like an India-rubber ball, from the fluctuating feel of a liquid. Deep, continued pressure would produce slight pain. Spermatic cord healthy. No enlargement of inguinal or pelvic glands.

Removed in the usual way. A section of the diseased mass showed clearly its cancerous and malignant nature. Towards the centre there was a portion, softened almost to a fluid state, and of a brownish colour. There were other portions, nearly round, the size of a cherry, of a dingy yellow shade, which had not reached the degree of softening mentioned above. At first sight, they looked somewhat like tubercle. The rest exhibited an encephaloid look, of a soft, elastic feel, similar to that of fat, though firmer. None of the healthy tissue of the testis could be found.

The microscope gave cancer-cells, particularly in the roundish masses.

Concentric Hypertrophy of the Left Ventricle of the Heart.—Dr. BOWDITCH was called to see the patient on the 1st of last October. She was a married woman, æt. 69, stout and nervous, sitting up, and apparently not very ill. Had had three attacks of rheumatism during the previous five years. Since the last attack she had been liable to singular "turns," very indefinitely described; coming on suddenly night or day; often after any exertion, but not necessarily so. They consisted of a sense of distress at the epigastrium, with dyspnoea and a "queer" appearance (as the attendants said) about the face. Never any loss of consciousness, and no very obvious palpitation felt by the patient. Attacks relieved sometimes by vomiting, and sometimes by a discharge from the bowels. They usually lasted only a few minutes. No hæmatemesis or vomiting of offensive matter. No dyspeptic symptoms. Bowels not very irregular, but were costive once or twice a week. She had had two "turns,"

more severe than usual, the day before Dr. B. saw her. At his visit, she was free from difficulty; pulse 94, strong, regular. On auscultation, no abnormal impulse nor dulness on percussion over heart; slight bellows murmur over ventricle; respiration less in the left lung than the right, but not morbid. Quite sensitive to pressure and percussion over epigastrium.

On a subsequent day, Dr. B. saw her again, and was satisfied that there was some obscure organic cardiac disease. Patient had gone the rounds of the faculty without benefit; had called in vain on homœopathy, hydropathy, and had experienced a little relief from electricity.

Dr. B. advised attention to the common rules of health, to keep the digestive functions well, and a tranquil state of mind, but to avoid all drugging.

From that time he ceased his attendance, but was suddenly called on the evening of February 8, 1853, and found her in the greatest distress, with orthopnœa. She pointed to the epigastrium as the seat of violent difficulty of breathing, and asked for air. The body was thrown forward. No pain anywhere. Slight but frequent cough, with raising of some serous fluid, once tinged with blood. Hands cold and sub-livid. Countenance very anxious. Pulse regular, not very rapid, but small. Mind perfect. On auscultation, nothing peculiar about heart except obscurity of sound. Fine crepitation in lower third of both backs.

Brandy, pægoric, and Clutton's spirits were given; mustard foot-baths and sinapisms to the chest were directed; but the symptoms grew rapidly worse, and she died in less than half an hour.

It appears that four days previous to this fatal attack, the patient consulted a noted quack in this city, who gave her a powerful purgative, by which the powers of life were greatly prostrated. She recovered, however, in some degree, and a few hours before her death said she felt better than for a long time previously.

On dissection, the heart was of the usual size externally, but the left ventricle felt thick. Parietes of this last, on the day after the examination (the specimen meanwhile having been wrapped in a dryish cloth), measured eight lines in thickness towards the upper part, and still more lower down. Cavity of the ventricle decidedly small, in proportion to the size of the organ externally. Right ventricle slightly hypertrophied. Mitral valve opaque, thickened, and contracted, so as to just admit the ends of two fingers. Aortal valves slightly diseased, but would have acted perfectly well. Auricles healthy. To account for the death, there was found cedema of the lungs.

The specimen was shown by Dr. Jackson, who made the dissection, and has no doubt of the fact of concentric hypertrophy in the present case, though he does not remember ever to have seen a case of it before.

February 28.—Malignant Disease of Eyeball and Tissues of the Orbit. Extirpation. Death from Hemorrhage during the Operation. Reported by Dr. WILLIAMS.—Mrs. —, aged 55, was first seen by Dr. W., in consultation, on the 16th of February. She stated that, after having attended church, on the 31st of January, she experienced slightly uncomfortable sensations in both eyes, which had previously been perfectly healthy. She supposed she had taken cold. The next morning the pain returned with increased severity, and was accompanied with nausea. There was an increased flow of tears, and the eyes began to be injected. After applications of leeches to the temples the pain diminished, and the right eye recovered its normal appearance and functions.

Mild fomentations, with a restricted diet, diminished the suffering caused

by the state of the left eye; but did not prevent frequent paroxysms of pain, nor allow her to enjoy uninterrupted sleep. At the time she was first seen by Dr. W., the eyeball seemed distended, the conjunctiva and cellular tissue beneath it were in a state of phlegmonous inflammation, and the lids were greatly swollen and infiltrated. The appearances, taken in connection with the history of the case, were thought to indicate phlegmonous inflammation of the eyeball rather than malignant disease. Fomentations and poultices were continued, in the expectation that relief would soon be afforded by a discharge of pus.

She was again seen a week later. No discharge had taken place, but the aspect of the symptoms had entirely changed. Instead of a globular form the tumor offered an irregular surface. The lids were perhaps less tense, but they were pushed widely apart by the pressure of the mass behind them. The situation of the cornea was occupied by a dark projecting mass having a fetid odor. Part of this was removed for examination with the microscope. It was found to consist principally of blood-corpuscles, with some fibrous tissue and pus-globules; but no cancer-cells could be detected. Notwithstanding this negative evidence, the disease was regarded as malignant, and its extirpation proposed as the only resource. The short time which had elapsed since the invasion of the disease, afforded some reason to hope that it might not yet have contaminated other tissues than that originally implicated. Finding an obvious increase of the eyeball from day to day, the patient consented to an operation on the 27th of February, precisely four weeks from the appearance of the earliest symptoms.

She sat up during the forenoon, and at the time of the operation seemed in good spirits, though somewhat debilitated by want of rest, a low diet, and repeated accessions of pain. Her pulse was rather feeble. She inhaled sulphuric ether without resistance or objection, but a considerable quantity was required to produce an effect. From seven to eight ounces in all was used.

On making the usual incision at the outer canthus to allow the lids to be more widely separated, a jet of blood followed a slight wound of the diseased mass. An attempt was made to place a ligature around the vessel, but the ligatures tore away as if applied around the walls of a sinus in the medullary tissue rather than upon the coats of an artery. Failing thus to arrest the hemorrhage, the bulk of the tumour was quickly removed. It seemed to comprise all the tissues of the orbit, including even the periosteum.

Small portions of the mass still remained attached to the floor of the cavity.

While efforts were made to tie the vessels which still furnished blood, the patient began to sink; and, notwithstanding the administration of alcohol and ammonia, and a resort to artificial respiration, she expired within ten or fifteen minutes from the removal of the tumour.

The inhalation of the ether was not kept up during the operation, and near its termination she gave such indications of sensibility as to lead one of the physicians present to suggest that she would probably require an additional amount.

The highest estimate of the hemorrhage, by any of the gentlemen present, was that it might have amounted to a pint; but it was, probably, considerably less than this amount. Under other circumstances this could not have produced serious consequences; but coming from the neighbourhood of the sensorium, in an individual already debilitated by disease and suffering, it appears to have produced a far greater impression.

No *post-mortem* examination of the body was made. The tumour was examined by Drs. Shaw and Hodges. They were unable to detect any vessels

which could have furnished the hemorrhage they had witnessed at the time of the operation; but one peculiarity of the tumour consisted in a universal diffusion, in every tissue, of a large quantity of blood-globules. The muscles of the eyeball were much hypertrophied, had assumed a fatty degeneration, and contained cancer-cells. These were also found in the cellular and fatty tissues. In the sclerotica, which in some parts was greatly thickened, and seemed to have undergone malignant transformation, cancer-cells were most numerous. The globe was filled with a clot of blood, containing no cancer-cells. No traces of the humors could be found. The cornea was burst, and the putrefying effusion projected through it. It could be recognized, as could also the iris, from its anatomical position, but no traces of its fibrous structure or epithelial covering could be discovered by the microscope. No cancer-cells were found in these nor in any of the internal tissues of the globe.

The portion of the tumour examined before the operation, was probably part of the cornea and some of the effusion behind it. This explains the fact that no evidences of malignant disease were then discovered.

In the earliest stages of the case it is probable the appearance of the pupil, and the general aspect of the symptoms might have afforded indications that the disease was malignant, and not simply ophthalmitis. But the evidence thus obtained is no longer met with at a more advanced period.

Cancerous Disease over the Head of the Tibia.—Dr. S. D. TOWNSEND reported the case. The disease appeared about five months ago, just below the head of the bone; a tumour of encephaloid nature, as large as a good-sized orange, existed in this situation. Dr. T. showed the corroded bone; the cancellated structure healthy. The patient was a female, 18 years of age; the leg was amputated above the knee.

Encephaloid Testicle left to itself.—Dr. J. B. S. JACKSON reported the case, and showed the specimens. The patient was a healthy farmer, 48 years of age, and the disease had existed for a year. In May, when first seen by his physician, Dr. Whittemore, of Brighton, the organ was considerably enlarged and hard; and from that time it had been increasing until, at the time of death, it formed a tumour nearly as large as the head; ulceration commenced upon the surface in July, and became, at last, deep and extensive. Discharge never was copious; some hemorrhage the last few weeks. From the first, there was never any pain in the tumour, though soreness was complained of.

On dissection, the gross and the microscopic appearances of cancer were well marked. One of the most striking peculiarities was an abundant infiltration, throughout the mass, of a thick, puriform liquid; a form of the disease which Dr. J. does not remember to have seen described, but which he once met with in the mesentery and omentum, without any appearance of the usual solid deposit of carcinoma. There was also a considerable amount of the yellow, opaque, tuberculoid formation, so common in encephaloid; no effusion of blood; lymphatic glands, within the pelvis and along the side of the spine, enlarged, white, and pulpy. The glands, also, in the opposite groin, formed a defined tumour of the size of a hen's egg; yet the testicle of that side was perfectly healthy, though perfectly buried in the side of the main tumour, as was also the penis. Femoral vein, upon the diseased side, intimately connected with the under surface of the tumour, and to the extent of several inches filled with a white, encephaloid substance, of a thick, pasty consistence. No trace of cancerous disease was found in any of the organs of the thorax or abdomen. In one of the lungs, however, three or four masses of well char-

acterized, and apparently recent and active tubercular disease were found; they were from one to two and a half inches in diameter, and consisted of defined groups of gray granulations with a few small abscesses; otherwise, these organs were healthy.

Dr. J. remarked that he had never but once before seen active tubercular disease in a cancerous subject.

Kirronosis of Lobstein; a Yellow Discoloration of the Serous Membranes in the Fœtus.—Dr. JACKSON showed a fine specimen of this affection. The coloration of the cerebral arachnoid was strongly marked, though not apparent in the spinal. The peritoneal and two pleural surfaces were coloured to a considerable extent, and deeply so, though in other parts not at all; the parietal membrane being particularly affected, though the convexity of the liver was also, as it generally seems to be.

Dr. J. also laid upon the table Lobstein's paper upon the subject, illustrated by several coloured drawings (*Répertoire Gén. d'Anat. et de Phys., &c.*, 1826), and remarked that he had met with no other original cases of this affection, though he had several times seen the appearance himself. The colour he has found to be confined to the serous surfaces. L. makes an exception in regard to the brain and spinal marrow; but Dr. J. had not observed this. The pericardium he has usually found coloured, though it was not in the above case; in one, he was led to examine the fœtus from finding the cord discoloured. The fœtuses have been from about three and a half to five months old, and had the flattened, blighted, macerated look so often seen. In Lobstein's cases, the age was about five months; but this last point he does not notice. Dr. J., however, was inclined to attach much importance to it, as, so far as he has observed, it has been a universal fact.

The microscopic appearances in the above case had been examined by Dr. C. Ellis, who found the "colouring matter composed of yellow granular masses, of various sizes, with borders more or less irregular. The same matter also existed in the form of short linear bodies, and of others, stellate or ramiform. No distinct cells." A drawing of these appearances was shown, and presented to the Society.

Posture of the Patient in Paracentesis Abdominis.—Dr. STORER said he had lately noticed that the recumbent posture, in performing the above operation, is advocated by Professor Simpson, of Edinburgh, as a new suggestion; and that the last number of the *London Lancet* contains a minute description of a case, by Dr. Tanner, in which he dwells upon the advantages of the horizontal position over the upright. Dr. S. was surprised to meet with these remarks, inasmuch as Dr. Cabot, of this city, performed the operation of paracentesis abdominis upon one of his patients, while in the recumbent posture, ten years since.

Dr. S. also spoke of the use of a tube of silver being noticed in the same journal, as having been used by Mr. Robertson, of Manchester, England, for introduction into the child's mouth before birth. This, referred to as new, was long since suggested by Dr. Jacob Bigelow, and he has received the credit thereof from Dr. Churchill in his work on midwifery.

Dr. HENRY J. BIGELOW remarked that the recumbent position, in tapping the abdomen, is invariably adopted at the Massachusetts General Hospital. Its advantages are evident: There is less chance that the patient faint, and, of course, no necessity for removing the person after the operation.

Ingestion of one-half an ounce of Laudanum.—Dr. C. E. WARE reported the case of a man who had taken half an ounce of laudanum. The subject was a strong man, who had swallowed it about two hours previous to Dr. W.'s seeing him. While waiting for an emetic, he tried Dr. Buck's method of evacuating the stomach. He administered about two ounces of vinegar, and followed it immediately with a strong solution of soda. The result was a violent explosion of gas through the œsophagus; but no other discharge of the contents of the stomach. A free evacuation, however, was soon obtained by emetics of the sulphate of zinc, and the effects of the opium passed off. A mild attack of pneumonia ensued; but the patient eventually convalesced well.

March 14.—Tænia expelled by Koussou.—Reported by Dr. STORER.—In July last, Dr. S. was consulted by a lady, 40 years of age, respecting a diarrhœa accompanied by severe pain, which had troubled her for several weeks. This condition of the bowels annoyed her until early in October; it was then checked for about four weeks.

The former part of November, she began to have three or four very large discharges daily, and frequently as many during the night, accompanied with sensations so peculiar that they could not be described, but very depressing to her spirits.

During the severe and long-continued diarrhœa of the previous summer, she had been accustomed daily to examine her discharges, at the request of Dr. S., it being feared that dysentery might ensue, and this she continued to do, upon the return of those too frequent dejections.

From the time of their occurrence in November until about the middle of January, she had noticed small white masses, varying in number, sometimes not more than three or four, but frequently as many as sixteen, in every discharge. About the middle of January, three of these portions were shown to Dr. S., and proved to be portions of a tape-worm. She was directed to take half an ounce each of spirits of turpentine and castor-oil. This operated freely, and afforded her much relief, but she detected no portion of the worm in the discharges.

From that time until a week since she had seen no vestige of the animal, although every discharge has been carefully examined.

At this latter period, her old sensations, and segments of the tænia, began to appear.

She applied to Dr. S. on Saturday last, September 12, and was ordered to take half an ounce of koussou, in infusion. On account of the nausea induced, but half the quantity was taken. In eleven hours after its administration, a moderate operation was produced, containing several small isolated joints, and a second operation followed, bringing away ninety inches of tænia, or nearly eight feet. A small dejection to-day contained about ten inches more of fragments. It is not a little singular that this patient should never have seen two united segments until yesterday.

Dr. WILLIAMS mentioned the efficient use of koussou and turpentine in a case of tape-worm, recently. The patient was attended by Dr. Calvin Stevens. Six yards of the parasite were discharged. It is thought that the head still remains.

Expulsion of a Child while the Mother was in the erect position.—Dr. STORER had met with a case of labour since the last meeting, in which the child was expelled while the mother was standing, leaning her head upon a shoulder of her nurse. The child's head struck the floor, which fortunately

was protected by a rug upon a carpet, with great force. The mother was of medium height, and the funis of the child was thirty inches in length.

Dr. S. considered the case highly interesting in a medico-legal point of view. A case, published a few years since in our periodical journals, is undoubtedly familiar to many of the members of this Society, in which a coloured woman was suspected of destroying her child, the bones of the head being fractured. She, however, insisted that it passed from her as she was walking in the yard upon the frozen ground, and that death was thus produced. Dr. S. had no doubt that, in the case he had just described, serious injury would have ensued had the head struck the unprotected floor. Although he is aware that in Klein's cases, in which 155 children were expelled while the mother was in an erect position (reported in the *Lancet*, Feb. 4, 1837: Thompson's Lectures on Medical Jurisprudence), no child was killed, nor was any bone fractured.

Muscular Anomalies.—Dr. KNEELAND read the following account: During the past year, I have noticed two interesting muscular anomalies, which, though not perhaps of any surgical or even anatomical importance, may be considered worthy of mention, both because such anomalies in the muscles are comparatively rare, and because they may throw some light hereafter on the homologies of the skeleton to which they belong. So far as I know, they are not mentioned in the books.

In April of last year, on a male in the dissecting-room subject I found an aberrant slip of muscle, on one side, arising from the levator anguli scapulæ. At the middle of the neck, this slip, which was about one-fourth of an inch wide for its whole extent, left the direction of the levator anguli scapulæ, and took that of the splenius, and was inserted by a distinct tendon into the delicate tendon of the serratus posticus superior, at about an inch from the upper border, and an inch from the spinous processes. The tendinous insertion consisted of fibres clearly continuous with those of the serratus posticus, especially towards the spine, in an upward direction, but less distinctly in the downward direction.

In November, in a female subject, I noticed the same slip, of a similar width, but inserted principally into the ligamentum nuchæ, about an inch below the upper border of the serratus posticus; some fibres were also attached to the tendon of this muscle, as in the first case. The attachment to the ligamentum nuchæ was fan-like for about an inch in vertical extent. It is hard to say to which of the muscles alluded to, levator scapulæ or splenius, this slip belongs; it possesses attachments common to both. It arises with the levator scapulæ from the posterior tubercles of the upper four cervical transverse processes, which also form the insertion of the deep-seated splenius colli; but, as in the last-mentioned case, most of the fibres arose from the ligamentum nuchæ, it would seem to belong more properly to the splenius.

The other anomaly is more interesting in a surgical point of view, consisting of the presence of a *fourth* peroneus muscle on one leg. The subject was a moderately muscular man, though considerably reduced by chronic disease. The peroneus brevis, longus, and tertius were normal in origin and insertion, though the tendons were larger than usual. From the peroneus brevis, about three inches above the ankle of the right side, came off a tendon as large as the tendon proper, which passed in a groove of its own behind the outer malleolus; but instead of pursuing the course of the peroneus brevis forwards to be inserted into the base of the metatarsal bone of the little toe, it passed perpendicularly downwards, to be inserted into the os calcis at its outer surface, as near as possible to its centre, considering both its vertical and antero-pos-

terior diameter. A knowledge of this peroneus quartus might be of importance in the division of muscles for the relief of valgus club-foot.

The same subject had also the not uncommon anomaly of a biceps humeri with three heads, the third head fleshy, and attached to the anterior middle third of the humerus.

Peculiar Form of Organic Disease of the Brain. Reported by Dr. ABBOT. —The patient, who had recently died, was a merchant of this city, 52 years of age, and had been sick for ten years or more. First complained of a peculiar sensation in his head coming on irregularly, sometimes two or three times daily, and at other times absent for several days. Feeling described as that of a sudden shock or blow, and instantaneous, like a flash of lightning; suddenly arresting his thoughts, without pain, loss of consciousness, mental confusion, or actual dizziness. It was only enough to call his attention to it and it was gone. These attacks continued until March, 1844, when he had a true epileptic fit; violent general convulsions, with loss of consciousness and biting of the tongue, but no frothing at the mouth. The patient had a recurrence of these attacks until the following July, occasionally two or three times daily, but generally with an interval of about ten days. Then there was an intermission of fourteen weeks without a fit. During all this time, however, the attacks to which he had been so long subject continued, rather increased in frequency and severity, being dependent apparently upon the state of his general health.

The remedies he had used thus far had been directed mainly to the correction of any constitutional derangement. Constipation had been treated by blue pill and laxatives. He had tried various preparations of iron. He had given up the use of tea and coffee and stimulants, to which latter he had never been much addicted. He was unwilling, however, to give up business; and while at his place of business was constantly exposed to the exhalations from tobacco, in which article he was a large dealer. He had been in the habit of chewing tobacco moderately, but gave up the practice at my request. He was a man of very active mind, entering with great ardor into anything which he undertook, and very devoted to business. At this time his appetite was excessive, and he was unwilling to restrain it. He regulated his diet so far as to live on the most simple food, only taking those articles which experience proved to be the most digestible. His disease continued without marked abatement, but rather increasing in severity until May 26, 1848. At this time turns of vertigo were about three daily, with fits every two or three weeks. It was determined to try a continued use of infusion of digitalis, as recommended by Solly. He began at this date by taking a teaspoonful at bedtime.

June 1, 6 A. M.—Had a bad fit, the first for six weeks. 8th, 6 A. M. A bad fit.

July 10.—After dinner a fit, not a very bad one. 31st. Had a slight fit in bed.

August 18, 5 A. M.—A bad fit. 21st. Another very bad fit at noon.

The digitalis was then discontinued, having taken it with an occasional intermission of a day or two up to that time, and gradually increasing to 3ss at bedtime. The number of turns of vertigo during this period, of eighty-seven days, was only twenty-two, a very marked diminution of their frequency.

The disease after this continued irregular as before, sometimes better sometimes worse. He lost flesh, however, his memory became impaired, and he was subject to great depression of spirits. Instead of vertigo, or rather with it, he had what Dr. Marshall Hall calls trachelismus. His head would turn

gradually in the direction of his left shoulder, and remain for a short time, half a minute to a minute, fixed in that position, with fixed staring eyes, and seeming unconsciousness of all around him, but without convulsion, or at most a slight tremulousness. These turns generally left him with a temporary confusion of mind. Sometimes, however, he retained his mental control enough to remark that he was having one of his "turns."

In September, 1849, he began to take extract of cotyledon umbilicus gr. v, night and morning, subsequently increasing the dose to gr. x, at night. He took this until the following April, without the occurrence of a single epileptic fit in all that time. It was then discontinued, as new symptoms began to manifest themselves. During this period he grew quite stout, his spirits became cheerful, and he seemed better than at any previous time during his illness. He was as stout as he ever had been in his life. The vertigo and trachelismus, however, continued irregularly all through this period, and in the spring of 1850. He began to have "falling turns," as if from his legs giving way under him. His wife remarked that his left arm and leg appeared weaker than those of the other side; in falling, his left leg seemed to yield first. When down, he generally retained his consciousness without convulsion, but with entire inability to rise for a few minutes. Sensibility not affected. His face was generally pale, and his pulse feeble and very rapid; head frequently bathed in perspiration. The disease progressed, true epileptic fits being rare, but the "falling turns" being of frequent occurrence, his mind breaking down by degrees.

About July, 1852, he gave up his business, and from that time to the day of his death left the house but once, when he rode out for an hour, but was greatly exhausted by it. He gradually lost the power of directing the motion of his legs and became incapable of walking. His right eye became wholly blind, the pupil being widely dilated; that of the left eye acted under the stimulus of light some time after the right; but, finally, he lost almost entirely the power of vision in this also. He lost the power of controlling his sphincters in a great degree, although he was generally able to warn his attendants of his desire for evacuation in time for proper precautions to be taken. His mind, during his last days, was frequently quite active. During the last three months or more he was subject to the most singular illusions, his mental condition being precisely like that of a person dreaming; the most singular and grotesque fancies taking to him the air of complete reality, and diverting his thoughts and conversation for days, while he retained his knowledge of his friends and the members of his family. Several months before his death he had a strange fancy for tracing the derivation of words, and always wanted to have a dictionary by his side. Appetite morbidly strong till towards the close of life; but during the last days deglutition became very difficult, and his bowels obstinately constipated. Throughout the whole course of his disease he never had any pain in the head worth mentioning. There is reason to believe that his sense of smell was impaired for several years before his death; indeed, his wife is of opinion that it had never been very acute since her acquaintance with him commenced; the other senses, however, were not affected.

The *dissection* was made by Dr. JACKSON, and reported by him. The cranium was thin and atrophied; the dura mater filled by the brain; the arachnoid dryish over the convexities with no trace of serum beneath, but with considerable congestion of the pia mater.

The disease of the brain was quite extensive, confined to the right side, and different from anything that Dr. J. had ever before met with. Situated at the base and extending some way upwards into the substance of the organ;

anteriorly to some distance in front of the corpus callosum, and posteriorly as far as the limits of the posterior lobe, the disease being apparently most advanced in the anterior: Ill-defined and passing gradually into the healthy substance. The diseased portion seemed to be enlarged or swollen; this was quite marked in that portion of the middle lobe which bounds the great fissure at the base of the brain, and which formed a sort of projecting tumour, in which was a groove formed by the passage of the sixth pair of nerves; enlargement also marked in the anterior lobe, where it pressed upon the falx and made quite a depression in the corresponding lobe upon the other side; also in the nates and in the hippocampus major, with a projection at one place into the lateral ventricle; corpus striatum somewhat full, but the optic thalamus not remarkable; crus cerebri very markedly broader than natural. In consistence it was, generally, decidedly softened, though nowhere pulpy; in the anterior lobe it felt firm before and on incision, but afterwards generally softer than natural, though unequally so. It had a gelatiniform appearance, more or less marked in different parts; and in the anterior lobe a very marked grayish translucency, this not being seen elsewhere. It had a peculiar and delicate rose tint, particularly upon the confines of the disease; passing into a purple, which in some parts became quite deep; the hippocampus was of a dusky red colour, and looked like a gorged leech. The structure was nowhere broken down excepting in one or two places in the anterior lobe, where, to the extent of two or three lines, it had a coarse cellular structure, and was thoroughly infiltrated with serum; the "cellular infiltration" of authors. The serous surfaces adhered in some places, but nowhere strongly, excepting where the fornix winds round behind the optic thalamus. The lateral ventricles contained about $\frac{3}{4}$ of clear serum; the left apparently much enlarged, but the right smaller; septum lucidum not softened. Otherwise the brain was perfectly healthy; the right olfactory nerve, however, was evidently diseased like the brain just before it passed through the ethmoid bone, forming there a small, grayish, irregular, and rather knobbed tumour.

The organs of the thorax and abdomen were also fully examined, and found sufficiently healthy.

In regard to the nature of the affection of the brain, Dr. J. remarked that, though it somewhat resembled "softening," yet it differed from any cases he had seen of this disease in respect to the colour, and more particularly in the enlargement of the affected portions, amounting in some parts to what would often be called a tumour; the colour, however, is said to vary much in "softening." There were no appearances of any of the common products of inflammation, excepting what has been above mentioned; no pus nor lymph, and no yellowish discoloration; and neither were there any of the characters of carcinoma. It was evidently a change of structure, and not a new growth. Since the dissection, different parts of the mass have been examined microscopically, but the result was very unsatisfactory.

Membranous Croup; Tracheotomy; its advantages; fatal termination of the case on the twelfth day; post-mortem appearances.—The patient, a girl of five and a half years, was attacked on a Monday. On Friday the case was thought desperate. On Saturday, P. M., false membrane one-half to three-fourths of an inch in length and in breadth was expectorated thrice. Sunday, A. M., pulse 156 per minute; the child in imminent danger of suffocation; the mother desiring the operation for opening the trachea to be done, Dr. HENRY J. BIGELOW did it at 10 o'clock A. M., Sunday. Great relief followed; the breathing became quiet; the pulse sank to 140; twenty-four

hours subsequently, the tube being apparently stopped (a double tube was employed); a suffocative paroxysm was manifested. Dr. B. found the tube clear, but discovered a flap of false membrane that closed the lower opening; by forceps, he removed a plug of membrane and thick mucus; from this time until the following Thursday, the amount of mechanical interference was extraordinary. On Tuesday, A. M., a piece of the trachea was cut out; the granulations surrounding the orifice of the external wound, bled somewhat, and the blood drawn into the trachea at first caused strangling, but in a short time the mucus became diluted by the blood, and expectoration became possible; acting upon this hint Dr. B. caused the trachea, externally and internally, to be carefully moistened with a few drops of water from time to time, and with evident benefit. A hooked probe and forceps were occasionally introduced by the opening, down to the bifurcation of the trachea, for the purpose of removing pieces of membrane and stringy mucus. On the day after removing the tracheal tubes, Dr. B. introduced two pieces of annealed wire suitably shaped to act as dilators of the external and internal orifices; the wound was kept open, in this manner, until death. On Monday there was some rale heard in the lungs. On Wednesday this had increased. Dr. Charles E. Ware apprehended supervention of pneumonia, which finally was declared, and the child sank from this and from debility. Dr. Bigelow thinks it would, doubtless, have died on the Monday or Tuesday after its attack, had not tracheotomy been practised; the prolongation of life, the relief procured, and the far easier death are, in his opinion, sufficient reasons for doing the operation, and he would always thus act, unless it be proved that sufficient disease of the lungs *always* follows in cases of true croup to prove fatal. The child lay upon its right side during the whole of the disease.

Dr. B. thought there were three points to be especially remarked upon in the present case: 1st. The obstruction in the larynx, and the immediate relief afforded by the operation; 2d, the dilution of the viscid mucus by dropping water into the opening in the trachea, and the removal of the secretions by instruments; 3d, the supervention of lobular pneumonia and its fatal consequences. From the time that the operation was performed the most careful attention was required for the carrying into effect of the various mechanical means that were adopted, and it was most assiduously given by Dr. Fogg, in whose practice the case occurred.

Dr. CHARLES E. WARE thought very favourably of tracheotomy in such cases; at first, in the above instance, the disease seemed moderate; the coloration of the face mostly fresh; this for a day or two. Dr. W. referred to the statement that congestion of the lungs is due to the tracheal obstruction; he mentioned a case, occurring within the past year, in which the respiratory sound in the lungs became less and less as the tracheal difficulty increased; crepitous rales next supervened, and fatal disease. From these considerations he would deduce the importance of an *early* resort to the operation of tracheotomy.

Dr. GOULD suggested the occurrence of croup *after* pulmonic disease, measles, and scarlet fever.

Dr. WARE had never met with it after disease of the lungs.

Dr. STORER inquired if tracheotomy has ever been done successfully in this city in membranous croup?

No affirmative reports given.

Dr. HOMANS had seen croup following measles, it is then apt to be fatal; it is well known to be not infrequent after scarlet fever. Dr. H. asked if the introduction of the wires, in Dr. Bigelow's case, were not painful? Dr.

Bigelow described their introduction: the springing ends were confined by a ligature and introduced, the ligature withdrawn a fit of coughing was the result of the sudden pressure and dilatation, but this soon ceased and the child slept. Dr. B. stated a case in which the single tube formerly used became plugged at its lower orifice by mucus except for an hole of the size of a knitting-needle; the double tubes can be kept clear; he had wished to see if the orifice could not be dilated sufficiently, and all desirable objects effected, without the use of any tubes; hence his employment of the wire dilators.

In reply to a question from Dr. Storer, whether the inflammation would not be aggravated by the introduction of the wires, Dr. B. said that undoubtedly some irritation would arise therefrom; he had supposed that, finally, the wires might even have ulcerated through; as it proved, however, they did not, but merely indented the inner tracheal surface; there is, also, a difference between *traumatic* and *idiopathic* inflammation. He does not think the wires, thus used, would aggravate the croupal trouble.

Dr. JACKSON remarked that, according to his observation, pneumonic inflammation combined with croup is very rare, even where lymph is found very far down in the bronchial tubes. Dr. J. described the *post-mortem* appearances, exhibiting the specimen to the Society. In the larynx, there was a thick and firm deposit of lymph from the edge of the epiglottis downwards, and it was evidently the original formation. Throughout the trachea there was a thin and delicate layer which was very readily detached, and had been formed after the expulsion of the original membrane; mucous surface beneath it highly inflamed, red, and granulated. Many of the smaller bronchia contained lymph, such as was found in the trachea, but several in the left lower lobe were nearly plugged up by a thick, whitish, firm, tubular membrane, which, like that in the larynx, contrasted strongly with the deposit in other parts. Besides the lymph, there was the usual abundant viscid secretion throughout the air-passages; also a trace of lymph in the pharynx. Mucous membrane sufficiently well below the primary bronchia. Pneumonia on both sides involved a great portion of the right upper lobe, having advanced there to the stage of purulent infiltration; elsewhere not very extensive. The opening in the trachea was quite free, and upon the inner surface was seen, strongly marked, the impression left by the wire that had been used as a dilator.

Strangulation of the Intestine by a Diverticulum.—The specimen was sent by Dr. HENRY SARGENT, of Worcester, with a full history of the case, of which the following is an abstract: The patient was a healthy farmer, 72 years of age, and had not been subject to symptoms of obstruction of the bowels. On the first of March, having had some pain in the bowels, with nausea, he took ten grains of blue pill followed by castor-oil. He had, the next morning, a slight fecal dejection, in which, as the wife thought, there was to be seen some of the oil. From this time, the symptoms of obstruction continued well marked until his death, which occurred on the morning of the 11th inst. The vomiting throughout was urgent, the fluid thrown off being generally greenish. Cathartics were several times given, and enemata very frequently; these last being at once returned, and with occasional tenesmus, though they did not cause any marked distress; no discharge of blood, as in cases of intussusception. On the night of the 6th, he was said to have had a very slight fecal dejection; but if he had, this was the only one after the second day from his attack. Some constant pain at epigastrium, though never enough to require opiates; bore pressure well; abdomen soft, and moderately tympanitic anorexia; tongue coated; occasional hiccough. Throughout the disease

there was no fever; pulse 88, and continued about the same, as to frequency, until his death, though it became more feeble as he gradually sank. Just before death, he complained of severe pain across the lower part of the spine.

On dissection, the small intestine was found greatly distended, filled with fluid, and very vascular; the large intestine being proportionally contracted. No peritonitis, except just about the seat of disease. The diverticulum was of medium size, arose from the ileum about forty inches from its termination, and adhered firmly, though to a small extent only, to the mesentery; a ring was thus formed, which seemed capable, after the withdrawal of the intestine, of admitting no more than two fingers; and yet through this ring the whole length of the intestine had passed from the diverticulum to within about six inches of the cæcum. The stricture was not so close but that the intestine could be withdrawn without difficulty.

Fatty Disease of the Liver in a Child seven months old.—Specimen sent by Dr. LEIGH, of Townsend; and the enlargement, the light fawn colour, and the doughy feeling of the organ, were highly characteristic of the disease. At a subsequent meeting of the Society, Dr. Jackson remarked upon the inordinate quantity of fat that it contained, and stated that, having thrown the organ into a large cylinder stove, it blazed up at once, and for some time filled the whole stove with flame. The child weighed but seven pounds fourteen ounces, and of this fourteen ounces was the weight of the liver. It was brought up by hand, and at the age of one month had diarrhoea; this yielded after a time, and the symptoms during the last few weeks were costiveness, colic, pain, and vomiting. The liver was the only organ diseased.

Dr. Jackson remarked upon the connection so generally believed to exist between fatty disease of the liver and phthisis. He has seen so many exceptional cases, and especially during this last winter, that he is inclined to doubt it, though the theoretical explanation of the connection is plausible. In the case of the common granulated liver, also, in which the organ generally contains such an abundance of fat, phthisis is certainly rare enough.

Diabetes insipidus.—Case communicated by Dr. LEIGH, of Townsend. The patient was a man who had suffered all his life from the disease. When first seen last summer, he was voiding daily six or eight quarts of nearly colourless and inodorous urine, and having a density scarcely greater than that of distilled water; there was no evidence of the presence of albumen or sugar; it did not become sticky on being evaporated nearly to dryness, and had not much offensive odour on standing for a week or more. The skin was peculiarly dry, and there was some evidence of disease of the lungs; as winter approached, this last became developed, and he has recently died of phthisis. The kidneys, which were sent by Dr. L. with the case, were enlarged, somewhat lobulated, extremely soft, so as to break down most readily under pressure, and scattered throughout with numerous distinct white specks, some of which had a reddish spot in the centre. Four weeks before death, one of the testicles inflamed, and on dissection a tubercular-looking deposit was found at the inferior extremity of the epididymis; this also was shown.

The comparative rarity of this form of diabetes was remarked upon; and, also, its termination in phthisis, as is so usual in diabetes mellitus.

March 28.—*Cyst containing Oil, from the Parotid Region.*—Case reported by Dr. H. J. BIGELOW. The patient was a man 45 years of age; tumour forming since he was three years old, and was first noticed after the healing of an abscess

in the ear. Gradually enlarged until the last two years, when it grew more rapidly. At the time of the operation it was of the size of a hen's egg, and situated immediately beneath the ear; had the feeling of an immovable cyst; integuments healthy; no pain. The external appearances were finely shown in two daguerreotype views; adhesions intimate at every point, even to the styloid process. It was, however, dissected out entire, except where it was attached to the under surface of the cartilaginous meatus of the ear. At that point there was a minute perforation through the cartilage, and a small probe having been passed through it, its extremity was felt just beneath the inner surface of the meatus; the whole cyst, as Dr. B. thought, seeming to expand from this as a point of departure. The inner surface of the cyst was mostly red and shining; microscopically, an imperfect epithelium was seen, though more marked towards and within the perforation. The contents were very remarkable; about 3ij of limpid, yellowish oil, perfectly resembling common lamp oil, and congealing in a few minutes after it was discharged, at a temperature of 65°, followed by about a dessert-spoonful of what appeared to be ceruminous and epithelial substance, in the form of whitish, opaque, flocculent masses. A small seton was passed through the perforation in the cartilage, to promote adhesion; at the end of a week this was removed, and the wound healed well.

Dr. B. remarked upon the great rarity of subcutaneous cysts containing oil. Dr. Jackson referred to the concrete fatty substance found in ovarian cysts that contain hair, and its resemblance to the specimen shown by Dr. B., suggesting that it might be liquid during life. Dr. B. said that in his cyst there was no hair. In reference to the perforation above described, Dr. Gay alluded to certain deficiencies that exist naturally in the cartilaginous portion of the meatus.

Remarkable Enchondromatous Transformation of the whole Thumb.—Dr. H. J. BIGELOW reported the case, and exhibited the specimen, with a beautifully coloured drawing, showing the appearances seen on a section of the mass; also a cast of the tumour, taken a year ago.

The patient was a female, 82 years of age, and the disease came on without obvious cause three years ago. An elastic, translucent tumour was first seen over the inside of the last joint of the thumb, and was thought to be a bursa. This enlarged gradually until a year ago, when it involved the whole thumb, and formed a rounded tumour, about four inches in diameter; integuments reddened and inflamed; it was elastic to the feel, and still thought to be an enlarged bursa, the opacity which it then had being explained by the idea of its being filled with the products of inflammation; pain considerable. When seen recently, it had nearly doubled its size; length eight inches, largest diameter nearly five inches, and circumference thirteen inches; weight of the mass, after removal, about twenty-one ounces. To the feel, it was still somewhat elastic; integuments thickened and inflamed, and upon the inner surface midway was a slough one and a half inch in diameter, and an inch deep; in the place of the nail, which existed a year ago, there was a foul ulcer, with thickened, everted edges, and nearly two inches in diameter. Pain so urgent as to keep her awake, and she was now quite ready for an operation, which had before been refused.

Having been removed with the metacarpal bone, a single longitudinal section was made through the mass, and exposed an almost uniform, translucent, bluish-white tissue, minutely and irregularly divided into lobules, averaging in size a split pea, and each invested by a distinct fibrous tissue. The mass

varied, as to density, in different parts, being greatest towards the centre, where there were some cartilaginous-looking lobules, and also considerable traces of the cancellar structure of the first phalanx. Towards the extremity, the structure was gelatiniform and more vascular, though still lobulated; the same soft lobules being also interspersed throughout the whole tumour. The skin and a thin layer of cellular membrane formed a sort of investing membrane for the mass, and could be readily separated from it; all trace of the original structures within having disappeared, excepting the scattered remains of bone above referred to. At the time of the operation, one quite defined lobe was found to extend into the ball of the thumb. Metacarpal bone healthy, though imbedded for one-half its length in the overlying tumour; anterior extremity covered by healthy cartilage, the synovial membrane being reflected over the corresponding surface of the tumour, and forming between them a proper articular cavity. Upon the back of the thumb, one of the extensor tendons was to some extent deeply imbedded in the tumour; afterwards, it lay beneath the skin, spread out to the width of half an inch, and extremely thin, and was at last inserted, with a fan-like expansion, into a mass, which, from its separation by a deep transverse fissure from the rest of the tumour, appeared to represent the last phalanx.

Microscopically, the soft parts of the mass showed cells, from one to two thousandths of an inch in diameter, and containing one or more nuclei, with considerable granular matter. In these parts, a structureless or fibrous tissue was found, in which naked nuclei were imbedded and interspersed with the above cells. The cartilaginous-looking portions showed a tendency to the formation of irregular, cartilaginous corpuscles; but there were none seen that were well marked.

The wound healed rapidly after the operation.

Wound of the Heart.—Case reported and specimen shown by Dr. H. G. CLARK. The patient, a young man, 21 years of age, was stabbed with a common dirk-knife, and died in twenty or thirty minutes. After receiving the wound, he ran up stairs, and then fell backwards, or was knocked down over several of the stairs, where he lay until he was taken up and carried to the watch-house. When seen by Dr. C., about ten minutes before his death, he was pulseless, though a feeble and distant action of the heart was perceived; occasionally, a feeble inspiration; lips somewhat sublivid, and face moderately pale. Dark blood was oozing slowly from the wound; the quantity that was lost altogether being probably about a pint. The external wound was half an inch in length; the knife grazed the left edge of the sternum, nearly cut off the cartilage of the seventh rib, made a wound in the pericardium an inch in length, and a penetrating wound through the right ventricle half an inch in length and one inch from the apex. The cavity of the pericardium contained about four ounces of coagulated blood.

Dislocation without Fracture between the Fourth and Fifth Cervical Vertebrae. Case reported and specimen shown by Dr. H. G. CLARK.—The patient was a stout labouring man, 30 years of age; and in an affray with another equally powerful, his antagonist got his head between his knees, beat him most brutally, and then hurled him with great force upon the ground. From that moment he lost all power of motion and sensation below the seat of injury; the respiratory muscles, as well as the extremities, were palsied; the urine dribbled away, and he had involuntary dejections from the operation of a cathartic. On account of great distress in the neck, he was bled to about a

pint, after which he appeared to sink, and in less than thirty-six hours from the time of the accident he died.

On dissection, there was found dislocation upon both sides between the fourth and fifth cervical vertebræ, with considerable displacement, but without fracture of the bones; the intervertebral substance, however, being of course broken through. Spinal marrow completely broken down to the extent of about half an inch. Muscles considerably bruised, with some effusion of blood between the vertebræ and the theca, but none within this last.

April 11.—Ovaritis. Dr. COALE.—The patient had suffered for seven years with symptoms referred by her attending physician to prolapsus uteri; there was violent pain at the menstrual periods, and also at other times; pain and sense of weight in the back, and pain of very acute character in the front of the abdomen darting back to the renal regions; an opiate treatment, alone, had been followed; on examination per vaginam, Dr. C. detected the right ovary enlarged, hardened, and very tender to the touch; there was but a *very slight* degree of prolapsus of the womb; an issue over the region of the inflamed ovary, and quinia were ordered. Dr. C. thinks this affection is very often overlooked; relief was obtained by the above treatment.

Abscess of the Brain after a fall upon a Nail. Case reported by Dr. BOWDITCH.—A boy, æt. 19 months, who, from birth, had been always well, except occasionally slight trouble from his teeth. On March 27, 1852, fell backwards from some steps. The distance was about two feet, and in falling he struck a door and probably the back of his head upon one of the steps, and finally it rested upon a broken carpet-nail, one-third of an inch long, and which had a jagged end. The force of the blow was sufficient to drive the nail fully into the head. The child cried lustily for a few minutes, and then quietly submitted to its extraction, which was performed by the mother with some difficulty. Immediately afterwards he seemed to think no more of it, continued as playful as ever, and was, perhaps, even more roguish than usual for three or four days; at the end of this time (the parent thinks on Wednesday, the 31st) he was not quite well. His sickness was attributed to two teeth, the gums over which were very much swollen, and the attack seemed like what he had had at previous times. A day or two before, he had eaten largely of orange-peel, preserved lime, and other indigestible substances; on Thursday, April 1, he vomited. He then desired to be carried in the arms of the nurse, and would lay his head upon her shoulders. The swelling and redness produced by the blow had disappeared under cold water-dressings, and the wound in the scalp was nearly healed. Usually, in the morning, he was better than at a later period of the day; but he played less than usual; his appetite was diminished. In other respects he seemed well.

On Monday evening, April 4, his attendant found more difficulty than usual in getting him to sleep, and before long he awoke and vomited; seemed in a stupor, with his eyes fixed. Dr. B. saw him half an hour afterwards. The patient was sitting in his mother's lap, with eyes open, calm, but staring straight forward without noticing any object that was placed before them. The pupils were dilated; occasional slight twitches of the hands and of the muscles about the face. Respiration regular; slight motion of mouth and throat as of swallowing. Dr. B. found that, in addition to the orange-peel and lime before taken, he had likewise swallowed some canary-seed on the morning of the day of the visit. The gums of two upper bicuspides were very tense; the pulse was quick; the skin not very hot. The gums were lanced without relief, and

he soon fell into a general convulsive action of the extremities. An emetic of calomel and ipecacuanha was given, and a warm bath administered. Subsequently, sinapisms were put to the feet; cold applications to the head. In about an hour he recovered; had free emesis and catharsis with removal of undigested food, and fell asleep. He awoke the next morning conscious and smiling as if wholly well.

From this time he continued to improve, and on the 6th, 7th, and forenoon of 8th, appeared to his parents perfectly well, though a little weak. Dr. B. had ordered that nothing should be given for food but the mother's milk, or, if need be, cream and water and a little grated biscuit. At dinner, on the 8th, he began to eat heartily of potato, and while doing so he suddenly stopped, and put his hand to his head as if in pain, and from that time sickened anew. He, however, had no serious convulsion until the afternoon of the 10th, when Dr. B. was again called and found him affected as at the first visit. During the evening he cried out as one annoyed, and about 2 A. M. screamed aloud as if in great agony, and passed into convulsions. From this period until his death, about midday of the 12th, he had manifest cephalic symptoms; eyelids half open; pupils large, insensible to light at first; at times, strabismus; at a subsequent period pupils irregularly acted on by light; limbs always rigid; arms rather flexed, and frequently seized with tremors and more firm contractions, accompanied by moans. Occasional vomiting, sighing respiration, and a little cough at last. The treatment consisted of leeching; calomel daily, at first in cathartic and afterwards in alterative doses; cold applications to the head, and finally blisters.

Autopsy, twenty-two hours after death.—Limbs flaccid; slight congestion of scalp behind left ear where leeches were applied; none elsewhere; spot where nail entered scarcely perceptible, and corresponding part of external table of skull still more difficult to discover; skull removed easily. On examining internal table a small funnel-like fracture, about one-eighth of an inch in diameter at base, composed chiefly of spicula of bone very minute, and projecting sharply from one-sixth to one-eighth inch, and through the dura mater. A small aperture was found in the dura mater, a little lymph was about this, surrounding which was a circular spot one-half inch in size of intense redness. Dura mater elsewhere well, but at this point it was so adherent by means of a layer of recent lymph (one inch by one-half inch), that it could not be raised without rupturing an abscess in the middle of the posterior half of the right hemisphere. This cavity was as large as an English walnut. It contained a purulent detritus. Its walls were soft but rough and red, and spotted with numerous bright red dots or points of extravasation. They were easily scraped off in a diffuent state to the depth of nearly one-fourth of an inch, and the parts adjacent were of a yellowish hue, and softer than usual to a still greater distance. The rest of the cerebrum was of normal consistence. The cavity communicated with the right lateral ventricles by a small aperture. The interior of this, with the plexus, was wanting in polish, and lined apparently with the detritus above named; it was, perhaps, larger than usual. Left ventricle of normal size, but contained some pale turbid liquid.

Over the anterior and outer parts of the left hemisphere, and extending in a less degree down towards the base of the cerebrum, were several large opaque white spots, evidently thin, subarachnoid purulent effusions. Very little lymph over the optic nerves.

The cerebellum was soft in both lobes at its posterior and superficial parts, especially in its left hemisphere. Fourth ventricle well. Vivid congestion of the surface in two small spots at the base of both hemispheres.

Medulla oblongata, well.

Organs of thorax and abdomen healthy; no indigestible food in alimentary canal.

Neuralgic Operations.—Dr. J. MASON WARREN related the following case. The patient was a lady, 35 years of age, who, nine years before, was seized, while pregnant, with a severe pain in the tip of the forefinger of the right hand. The only cause she could attribute it to was the too free use of the needle. The pain had gradually increased, affecting the arm and shoulder, and, finally, other parts of the body on the same side. Every remedy, which the experience of distinguished surgeons in the vicinity could suggest, had been ineffectually tried. She was informed by Dr. W. that the success of an operation was doubtful. Aside from the above disease her health was otherwise good, and she was in good flesh. The appearance of the finger was somewhat red, and the motions impaired. It would not bear the slightest examination without the most excessive suffering. The patient being etherized, an incision was made a little in front of the inner aspect of the finger, the digital nerve exposed, and about half an inch of it excised. The same operation was repeated on the other side.

The operation had been followed by the most complete success; the patient was heard from some months afterwards perfectly free from a recurrence of her disease. Dr. W. referred to an operation similar to the above done by Dr. Buckminster Brown, and reported in the *Transactions* of the Society. These cases he thought interesting on account of the discredit into which the division of nerves for neuralgic affections had of late years fallen. At a subsequent meeting, he mentioned the case of neuralgia of the lower jaw, already reported, in which he had trephined that bone at its angle, and removed half an inch of the nerve, the operation being successful so far as he is acquainted with the after history.

Dr. SARGENT, of Worcester, Associate Member of the Society, spoke of two cases in his own practice; the first he observed in a nervous female who had pricked the ulnar side of the palm of the hand near its articulation with the little finger; the neuralgic pain, in this instance, was evidently in the *skin*; very slight touch causing exquisite pain, while forcible, deep pressure did not; the touch of a feather upon the affected hand and arm produced acute suffering; the hand *springing up* convulsively at such touch; the pain first appeared in the seat of the injury. Dr. S. applied cantharides plaster, and then morphia to the cutis, repeating them three or four times; the treatment was followed with relief at each application, and after two or three weeks there was no recurrence of pain. The same patient afterwards injured the other hand with a pin, neuralgic pain of like kind supervened; similar treatment was followed speedily by a like result. Dr. S. alluded to analogous cases of long persistence, in which atrophy of the affected parts occurs; he has met with such; of neuralgia *confined to the skin* he had seen but two or three cases. A few years since, Dr. S. saw a man who had severe neuralgic pain supervene in the cicatrix of a cut which he had received on the dorsal aspect of one of the thumbs near the nail; a touch upon the scar caused great pain, which extended up the arm; blisters were ineffectual; an incision was productive of immediate and entire relief.

Dr. PARKMAN mentioned the case of a female of middle age, wounded by a needle in the ball of the thumb; spasmodic pain supervened extending to the entire arm, with severe spasms of the limb; free crucial incision afforded complete relief; the affection was of two or three years' continuance.

Dr. BROWN remarked that, in the case reported by him and referred to by Dr. Warren, morphia applied to the blistered surface, and, indeed, every other known remedy was wholly ineffectual; the excision of a portion of the nerve was at once and entirely successful; no return of the disease.

Dr. HAYWARD, Sen., spoke of cases in which, a piece of a nerve being removed, no relief was experienced. Dr. H. cited a case in which Dr. Warren, Sen., removed an inch of the ulnar nerve for relief of neuralgic pain consequent upon a bruise of the arm and injury to the nerve, not the least relief of the pain followed; the patient, a young woman, finally submitted to amputation of the limb.

Dr. PARKMAN said that, in a case in which he divided the nerve at the mental foramen, last summer, with apparently permanent relief, the neuralgia has returned, and now pervades the entire face.

Apparent immunity from the action of Scarlet Fever Poison in certain persons immersed in Tobacco Smoke.—Dr. KNEELAND mentioned this instance, which was related to him by a physician. It is, at least, a curious coincidence, if nothing more.

In the midst of a district completely invaded by scarlatina, certain Irish families, in which tobacco fumes constantly pervaded the atmosphere, enjoyed entire immunity from attacks of the disease. Two Irish families, the only ones in which no tobacco was used, were visited severely by the fever.

Dr. MINOT referred to the remark of MM. Parent-Duchâtelet, and Marcet, that workmen in tobacco are remarkably free from contagious diseases.

Detachment, by Violence, of the Extensor Tendon from the last Digital Phalanx.—Dr. H. J. BIGELOW reported three cases of this accident. 1st. A gentleman having had his hand caught between a running-band and a roller, over which it was passing, the middle finger was injured in such a way that he at once lost all power of extending the last phalanx; nor has he yet recovered it, though the accident happened eight years ago. When the finger is extended, which can be done otherwise very perfectly, this phalanx is strongly flexed. 2. A woman, when making a bed five years ago, struck the middle finger, and the same result followed. 3d. A young lady struck the back of the hand sharply, but not forcibly, and with the same result. This case has occurred recently. All three of these cases have been treated for some time with a straight splint, but with very little, if any, benefit.

Dr. B. has never met with any notice of such an accident as the one above described; but can give no other explanation of what happened.

Cerebral and Intestinal Disease.—Dr. STORER presented the following case, to which he was called in consultation, for the notes of which he is indebted to Dr. FOLTS; and for the account of the *post-mortem* appearances to Dr. ELLIS, by whom the dissection was made, in connection with Dr. HOMANS, Jr., and in presence of Dr. FOLTS.

R. H., ætat. 34; married; formerly a sea captain, but for six years past has been agent for a line of packets.

Dr. Folts having been in attendance upon the family of the patient, more or less, since January 7, had noticed that Mr. H. was sallow, and that he complained much of pain in the head, but he was able to attend to his business as usual.

On the 25th of March, Dr. F. was called early in the morning, and found

him suffering from pain in the right ear, so intense that he had been walking about the room during the whole night. Pulse 54.

Several days before, he was attacked with severe pain in the nose and between the eyes, which disappeared after a copious discharge of bloody serum from nostrils, a sensation as of "something breaking" having preceded the latter.

The pain in the ear continued unabated until the following morning, when vomiting supervened, immediately excited by any motion of the head. Pulse still below 60. A few hours later, he began to complain of pain in the head, that in the ear, however, still predominating. In the afternoon of the same day, the pulse became somewhat accelerated, and the vomiting mostly subsided, but recurred on exposing the eyes to the light, which also caused dizziness. A discharge of bloody serum from the ear, which had commenced on the previous evening, continued through the greater part of this day. The ear was then examined, and the membrane of the tympanum found ragged, and nearly destroyed by ulceration.

The pain in the head increased rapidly, and for two days and nights was so severe as almost entirely to prevent sleep; at first, shooting from the right ear, through the temple, to vortex, and afterwards complained of mostly in the occiput. The heat of the head was at the same time intense.

The vomiting recurred once or twice, but did not again become a troublesome symptom. The pulse rose from 60 to 80 and 100.

The pain in the head subsided so much on the 28th that he slept quietly during the first part of the night; but at one o'clock had a thin, black, fetid discharge from the bowels, which had previously been costive. This was followed by several others of the same character, portions of lymph in a tubular form being thrown off with the first two. He immediately began to sink, and died at 10 o'clock A. M., March 29.

Autopsy, five hours after death:—

Externally.—Great cadaveric rigidity. No marked emaciation.

Brain.—Vessels of *dura mater* well filled, but no marked congestion; the membrane itself not abnormal.

On the removal of the *dura mater*, there was seen, under the *arachnoid*, and covering more or less completely the anterior half of the convexity of the brain, a layer of thick pus, which exhibited but little or no disposition to escape on incision. This same deposit was present also in the form of smaller patches, laterally and posteriorly, and at the base extended from the optic commissure to the point where the spinal cord was divided, filling the various depressions over which the *arachnoid* is spread. Both sides equally affected.

The *lateral ventricles* were distended by about $\frac{3}{4}$ of serum, which appeared perfectly clear as it escaped, but at the posterior and most dependent part were a few very small yellowish-white flocculi. The lining membrane of the cavities presented no trace of inflammation. The posterior part of the choroid plexus had a vesicular appearance, as if composed of a string of transparent beads, varying from one to three lines in diameter.

The substance of the brain was of natural consistence, and not unusually vascular.

Temporal bone.—On exposing the petrous portion of the right temporal bone, its surface was found intact; but immediately beneath, and seen, as it were, through a transparent layer, a marked vascularity was noticed, contrasting strongly with the appearance of the corresponding part of the bone on the opposite side.

On exposing the tympanum, and the numerous cavities which extend from the point to the base of the petrous portion, they were found filled with dirty

pus, the bone being everywhere quite vascular; no sequestrum seen. A probe passed freely through the meatus externus into the cavity of the tympanum, where the ossicula were found in a healthy state.

Ethmoid bone.—Portions of the cribriform plate of the ethmoid were cut away, but no disease was discovered beneath.

Intestines.—The intestines contained a considerable quantity of dark green liquid feces.

Ileum.—Strongly marked transverse folds, resembling the valvulae conniventes, existed in the last two or three feet. The mucous membrane of this part was much inflamed, and covered by a slight deposit of lymph, discolored by the feces.

Large intestine.—The internal surface everywhere of a more or less dark red colour, showing a high degree of inflammation; thin patches of lymph, from one to two inches in diameter, being here and there observed, stained by the contents of the intestine. The mucous membrane was exceedingly thin, the injection of its vessels enabling one to easily estimate its thickness. No marked ulceration.

False membrane.—The two or three separate portions, in which the membrane came away, would, united, measure about one foot. These were opaque, of a dirty white colour, stained internally by the feces, and about a line in thickness, the external surface presenting numerous small crypts.

Under the microscope, the membrane appeared to be composed of a granular and fibroid substance and epithelium, but bore no trace of organization.

The other organs were examined, but nothing remarkable discovered.

Supposed Ship Fever.—The following letter, from Dr. JAMES F. HARLOW, of Boston, describing the case, was read to the Society by Dr. COALE:—

"I saw Mrs. P., aged 34, for the first time, on Sunday, March 13. On the day previous, she had suffered with chills, followed by heat and perspiration. I found her feverish, with a severe headache, and countenance dusky and expressive of anxiety; extremely nervous; pulse about 120, rather feeble. As she had already taken an active cathartic, I merely gave her a mild emetic, which sensibly relieved her head. On the following day, with the exception of her head symptoms, she was not so well. She continued to grow worse till her decease. About a week after my first visit, delirium came on, which was mitigated by the use of ammonia during the day, and morphia at bedtime to secure sleep. For four or five days before her death she passed her urine involuntarily; her tongue was dark and dry, and pain was felt over the cæcum. On the third day before she died she emitted a strong ammoniacal odour; and I perceived a dusky reddish-brown eruption upon her, resembling the eruption in ship fever. At last, subsultus came on; then coma and dyspnoea, and she expired on Friday morning, the 25th. Throughout her disease, her urine was scanty, and darker than natural, and twice she was attacked with epistaxis. Her bowels were never moved except by an aperient."

The interesting point in the above case, which was visited by Dr. Coale three times in consultation with Dr. Harlow, is that a case of ship fever, which it undoubtedly was, should have occurred without any possibility of contagion having anything to do with it, in a remarkably elevated, open part of the city, and in a well-ventilated house. The patient had previously been subject to menorrhagia, and had aborted several times, with profuse flooding following.

April 25.—Mercurial Poisoning.—Dr. BACON reported the case, which occurred in the practice of Dr. E. Wales, of North Easton, Massachusetts,

and exhibited the stomach of the patient, a boy ten years old; also, reduction tubes containing sublimed mercury obtained from the mucous membrane, and from the contents of the stomach.

The boy was in good health until the evening of Saturday, the 16th inst., when, after a supper of baked beans with vinegar, he was seized with vomiting, and discharged the contents of his stomach. He then retired to bed, and appears to have rested quietly until between 7 and 8 o'clock A. M., when he vomited two or three times, and asked for water, which was given him. During the night, he had passed a fecal dejection in the bed. He complained once of pain in the stomach and bowels; but was easy after the vomiting, and very soon died, apparently of exhaustion. No medicine was administered.

At the autopsy, the stomach and part of the alimentary canal are reported to have been inflamed, and in spots corroded. When Dr. B. saw the stomach, two days afterwards, patches of the mucous membrane along the greater curvature were much corrugated, rather firm in texture, and of a whitish colour. The most disorganized portion was near the right end of the stomach. The whitish spots were surrounded by a broad margin, of a green colour, on its inner border, which gradually passed into a pale brown on the exterior, and finally into the uniform pink colour of the rest of the surface, which appeared normal, or nearly so. The green tinge was probably caused by bile, brought into the stomach from the duodenum, and infiltrated into those portions of the mucous membrane whose vitality was destroyed by the poison, without retaining much of it. The exterior of the stomach was stained green in one small spot, but was otherwise healthy. There was some serous infiltration of the submucous cellular tissue under the most disorganized spot; but little or no thickening of the coats elsewhere.

The stomach contained about f3jss of a thin reddish fluid, of a faint acid reaction, with a few buff-coloured flocculi. A very small amount of mercury was detected by Dr. B., in solution in the fluid, and a larger proportion in an insoluble form, in the disorganized mucous membrane; proving that some corrosive salt of mercury had been taken into the stomach, which acted chemically on the tissue. No other poisonous substance was discovered. It could not be ascertained whether corrosive sublimate, or some other mercurial preparation, had been taken.

ART. V.—*Analysis of Blood. A new Method of separating the Blood-Globules from the Coagulum.* By BENJAMIN S. SHAW, M. D., of Boston.

HITHERTO, a quantitative analysis of the blood has been very difficult when once this fluid has been coagulated, the principal difficulty being the perfect separation of the globules. Before coagulation, this can be pretty easily done by whipping out the fibrine, or by agitating the blood in a flask in which is suspended a piece of metal, around which the fibrine collects, and then filtering the serum which still retains the globules. But it is not always possible for the chemist to be present at the venesection for this purpose. The method I pursue is very simple, and is not, I think, generally known to chemists.

The blood, when drawn, should be immediately poured into two vessels of the same size. I use two light glass tubes, weighing, with their ground-glass stoppers, each about an ounce, and capable of containing each an ounce of blood. The tubes should be completely filled, the stoppers introduced and allowed to rest twenty-four hours, so that the coagulation may be complete. One of these portions of the blood is used for the estimation of the globules, fibrine, and albumen, the other for the salts and the water. The great difficulty then is in separating the globules from the fibrine without rupturing them, so that they may afterwards be retained on a filter. To effect this, I have tried experiments with different kinds of linen and cotton cloths, of different degrees of fineness, and find that there is a kind of linen, rather fine than coarse, and yet the threads of which are not too closely woven, being about sixty to the inch, through which, when it has been well washed and soaked, or better still, softened by wear, the globules can be pressed from the clot without injury, the fibrine being perfectly retained. A saturated solution of sulphate of soda should be prepared in an open vessel, the linen cut in a circular shape of sufficient size to hold the clot, and moistened with the solution before its introduction. The clot inclosed in the linen should then be immersed in the solution, and gradually pressed with the fingers till all the globules are removed, and the fingers and linen then washed with the solution to remove what few globules may adhere to them. The fibrine remaining on the cloth should then be washed, dried, and weighed.

The globules, when examined with the microscope, will be found unruptured, and of natural appearance. These should then be filtered by a small filter (previously weighed), the filter moistened with the sulphate of soda solution, and only a small quantity of the globules be poured at a time upon the filter. The globules should then be washed upon the filter with a fresh solution of sulphate of soda, dried, and the filter spread out on the surface of a water-bath heated to 212° F. to coagulate the globules. The heat in the centre of the bath is not sufficient, and the filter should be well spread upon the bottom of the bath, immediately over the boiling water, as nothing less than a heat of 212° F. will suffice. When the globules are coagulated, the filter should be replaced in the funnel, and the globules carefully washed with distilled water, so as to remove all traces of the sulphate of soda, albumen, &c. This can be easily done without losing a single globule, if the globules have been fully coagulated. The filter is to be dried and weighed in a corked tube. The difference between this weight and the previous weight of the same filter, in the same tube, will give the exact weight of the globules.

The rest of the analysis is much like the common method. The solution of the sulphate of soda, after the separation of the globules, should be coagulated by heat with a few drops of acid, the coagulum washed with water, alcohol, and ether, dried and weighed for albumen.

The second portion of the blood, reserved for the estimation of the water and the salts, should be weighed, dried in a sand-bath, and again weighed, the

loss being water. The residue should be burned in an open capsule carefully, for large quantities of carburetted hydrogen are generated, which puff up the mass, and render it liable to be lost over the sides of the vessel. When the gas ceases to escape, the calcination should be continued in a platinum crucible; but even here the perfect elimination of the carbon is very difficult.

A physician, furnished with two of these glass-stopped tubes, or even with two common test tubes well corked, can fill them, and hand them to the chemist, without any necessity for previously defibrinating the blood. And by this method, also, the fibrine is perfectly separated, which is not always the case when the blood is beaten. The other ingredients of the blood, as the fatty matters, urea, seroline, &c., can also be estimated. Although this is rarely desired by the physician.

ART. VI.—*The Meteorology, Sanitary Condition, Prevailing Diseases, and Mortuary Statistics of Memphis, Tennessee, in 1852.* By GEORGE R. GRANT, M. D.¹

FOR the past two years the writer has kept a monthly journal of the prevailing diseases of Memphis; and it is singular to observe, on a comparison of the maladies of each month, of these two years, how very nearly the disorders of the one correspond with those of the other. This analogy in the diseases of the respective months of these two sickly seasons is the more remarkable from the fact that the *meteorological* conditions were, in some important respects, widely different. During the months of May, June, July, August, and September—when the sickness and mortality are greatest among our population—there fell, in 1851, only 6.88 inches of *rain*; whilst, in 1852, during the same periods of time, the quantity amounted to 18.60 inches. The parching drought of the former, when *four* inches of the quantity of rain mentioned was distributed among the four last-named months, with but six entire cloudy days in the time, is in marked contrast with the *fourteen* inches of rain which fell in the same months of 1852, with clouds and breezes to temper the rays of a summer's sun.

The annexed tables will show the maximum and minimum ranges of the barometer and thermometer, with the monthly mean, and the quantity of rain which fell in each month of the past year. It has been compiled from the meteorological journal kept at the Memphis Navy Yard, by order of the government, for the use of the Smithsonian Institution.

¹ This paper was prepared for Dr. Sutton, of Georgetown, Ky., chairman of a committee appointed to report on the Epidemics of Tennessee and Kentucky, at a meeting of the "American Medical Association," to convene in New York, in May, 1853.

1852. Months.	BAROMETER.			THERMOMETER.			RAIN. ¹
	Maximum.	Minimum.	Mean.	Max.	Min.	Mean.	Quantity in inches.
January	31.01	29.23	30.12	66°	02°	33°	1.60
February	29.79	29.21	29.50	65	32	51	6.14
March	29.78	29.13	29.45	87	25	56	2.23
April	29.58	29.00	29.29	85	37	61	3.68
May	29.75	29.32	29.53	91	45	68	4.43
June	29.77	29.32	29.54	96	50	73	2.51
July	29.70	29.45	29.57	99	61	80	1.83
August	29.70	29.39	29.54	97	55	76	6.28
September	29.68	29.38	29.53	95	48	71	3.55
October	29.78	29.22	29.50	88	40	64	2.00
November	29.74	29.12	29.43	76	28	52	4.97
December	29.84	29.12	29.48	70	28	49	7.66

It is easy to conceive how very different would be the condition of the vegetable kingdom under the opposite states of dryness and moisture characteristic of the two past years, in this place. In 1851, vegetation was literally burnt up. In 1852, it was luxuriant and abundant. Notwithstanding these dissimilar meteorological conditions, and the influences which they manifestly exerted on some portions of animated nature around us, an examination of our records but too truly proves, that the causes of disease and death amongst our population were very slightly, if at all, controlled by these differences in the seasons.

During the four hot and *dry* months of 1851 (from June to September inclusive), the sickness was extensive, the numbers dying in this period reaching 363; the hospital mortality, which was a fraction over 24 per cent., not included; whilst, in the corresponding months of the past *wet* summer, the deaths reported by the Board of Health were 348; the deaths at the hospital excluded, as the manner in which the returns from it were furnished, for the past year, entitles them to no consideration as matters of fact.

According to our mortuary records, the total of deaths, leaving out the hospital, was 715, in 1851. Of this number, *over one-half died* during the four months just alluded to. The difference in the mortality for the same months of the past season was only *fifteen* less than the previous one, the whole number of deaths for the time specified being 348, in 1852. And here we will take occasion to observe that the prevailing diseases which induced this mortality were, with a slight exception hereafter to be mentioned, identically the same in both years.

The following statement of the mortuary statistics, collected from the weekly returns made to the Secretary of the Board of Health, for the past

¹ The quantity of rain which fell in 1851, in all, was 34.89 inches; in 1852, it amounted to 48.88 inches, making a difference between the two years of 12 inches, in round numbers.

year, will show the aggregate number of deaths, in each month, of the two races, with a condensed account of the different ages of the deceased.

Months.	White males.	White females.	Coloured.	Total.
January	12	14	12	38
February	18	10	4	32
March	9	14	7	30
April	20	8	7	35
May	28	16	11	55
June	54	36	29	119
July	44	37	23	104
August	34	11	13	58
September	36	18	13	67
October	34	12	18	64
November	82	14	10	56
December	24	16	8	48
	345	206	155	706

Of these there died of—

5 years of age and under	263
From 5 to 10 years	29
“ 10 to 20 “	57
“ 20 to 30 “	131
“ 30 to 40 “	87
“ 40 to 50 “	45
“ 50 to 60 “	24
“ 60 to 70 “	9
Over 70 years	13
Persons whose ages are not recorded	48
Total	706

When we take into consideration the prevailing diseases, and the strange coincidence of the fatality which attended them, notwithstanding the marked dissimilarity of the meteorological phenomena that accompanied the two past sickly years, in Memphis, we are led to infer that we have in our midst a class of *local agents*, of our own creation, to whose baneful influences most of our diseases owe their origin, independently, to a considerable extent, of the influences exerted by heat and moisture either singly or conjointly.

As the agencies here alluded to were pointed out, somewhat in detail, in a paper of mine, published in the May number of the *New Orleans Med. and Surg. Journ.* of last year, I shall take the liberty to transcribe from that article the points having a direct bearing on this branch of our subject. Before giving these extracts, it will be best, perhaps, to precede them by a short topographical sketch of this locality.

Memphis is situate on a high “bluff”—some fifty feet or more above the high-water mark of the Mississippi River—in latitude 35° 8' north. The soil on which the city is built is purely *alluvial*, and reposes on a bed of sand, containing the remains of the *testacea* of former times. In digging for wells,

no rock of any kind is met with; water being generally found on reaching the sand-bed. This well-water is more or less impregnated with the sulphate of lime, which it derives from the decomposing shells among which it percolates.

Few places possess better natural advantages than this to make it one of the *cleanliest* cities in the Union. Yet it is a lamentable fact, that the same neglect of every system of public hygiene is nowhere else to be found in any civilized community that we have either seen or read of. There is not a *scavenger* in the employment of the city; whatever is done in that line, is effected through the voluntary acts of the *dogs* and the *hogs*. The condition of things, as portrayed in the following quotations from the paper above alluded to, are still in existence, without much apparent probability that they will be shortly remedied:—

“That abundant sources for contaminating the *purity of the atmosphere* exist in this city, no one, at all competent to judge of the subject, will be disposed to deny. On examination, it will be seen that the *grading* of the streets has caused their elevation, in many places, several feet above the level of the contiguous lots; and that, as a consequence, the spaces included between lines of streets crossing each other at right angles, become, in wet weather, *artificial ponds*, without an outlet, containing more or less of organic remains; where the only authorized *scavengers*—as if conscious that these receptacles of filth were prepared expressly for their use, as a compensation for services rendered—have rooted and wallowed in seeming pride, and self-satisfied indulgence.

“Whoever will traverse the alleys running parallel with our principal streets, and dividing the lots fronting on the latter from each other, will see enough of dirt and filth, not only in these alleys, but in the rear part of most of the improved places in Memphis, to satisfy the most casual observer that cleanliness of our streets and inclosures is not an important item in our domestic or city regulations. On inspecting these alleys—on which the temples of Cloacina are here mostly located—we shall have presented to our gaze the disgusting spectacle of accumulated piles of ‘night-soil,’ and the olfactories will be greeted with odours, which remind one neither of ‘the sweet scents of Arabia,’ nor of ‘the pure waters of Helicon.’

“Aside from the disgust excited by seeing exposed to view piles of human fecal deposits, it may be safely questioned whether, in this form, they are as prejudicial to health as are the same materials accumulated in the narrow and shallow pits required for their concealment, by the laws of the city. Pits nine feet *deep*, and three or four feet *wide*, walled in with bricks and mortar, only serve to place the effete matters they contain sufficiently near the surface to undergo rapidly the putrefactive process, in warm weather; whilst the chance of speedy desiccation is prevented by the fluids in which they are kept constantly immersed.

“On some of our principal streets, and in the midst of the most populous and business parts of the city, there are ranged along, in pretty close proximity, an unusual number of *livery stables* for a town the size of ours. That they add nothing to the cleanliness of their vicinities, is most evident; that they aid materially in deteriorating the atmosphere in more ways than one, is just as certain.

“Extending from south to north almost the entire length of the city, and

dividing it very nearly into two equal parts, is the Bayou Gayoso, a natural *sewer*, that might be made, under proper management, of incalculable value, for the important purposes of drainage and sewerage. This bayou forms a junction with Wolf River, just before the latter disembogues its waters into the Mississippi. This 'natural advantage,' like many others of which our people boast, if we are not greatly mistaken, is, in its present condition, the most fruitful source of disease among us. Scattered along, on either side of it, are the little wooden temples, similar to those that adorn the alleys. They are so constructed that the deposits made in them find their way, not into the bayou bank, but on it; to be choked out by the heavy rains, or not, without the least seeming concern on the part of *depositors*, or the guardians of the public welfare. And, as if to give variety to its ornamental nuisances, and to 'cap the climax' of our perverseness and folly, in matters appertaining to health, *cattle and slaughter pens* have been erected, and have been permitted to continue on it, for several years, with their filth and their stenches.

"The slope of the city from the bluff in front, and on the west, being to the bayou, and from its eastern boundary in the rear, the slope being likewise towards the same, it is evident that everything washed from the streets and gutters finds its way into this receptacle, in addition to what is placed therein by direct agencies. Besides all this, when it is remembered that the back-water from the Mississippi River, when it reaches a certain stage, finds its way into this bayou; that, during every 'June rise' of the river, the bayou is kept more or less full, according to the height which the former attains; that much of the detritus of this turbid water is deposited, during its period of rest, in this reservoir, before it recedes through the same channels by which it entered, and this at the commencement of summer, we are constrained to admit that there are here placed together, along the very centre of Memphis, the appreciable materials in abundance, from which the sun's rays evolve, in profusion, noxious exhalations to vitiate our atmosphere, and to poison those who are compelled to breathe it."

To what extent health is influenced by emanations from a soil like ours, is a question the discussion of which would be entirely out of place in a paper like this. It may not be amiss, however, to state that, in an anniversary address recently read before the Memphis Medical Society, by Dr. A. P. Merrill, it was contended that the removal of fresh earth from one situation to another—as has been done in this city on an extensive scale in grading the streets—is, perhaps, the principal cause of the sickness which has been so prevalent during the past two years in Memphis. To the *desiccation* of this fresh soil by the heat of summer and autumn, Dr. Merrill attributes, as a cause, many of our prevailing diseases, without indulging in any farther hypothesis on the subject.

It is thought by some that the *well-water* of this place is, in a good degree, the cause of much of the bowel-complaints common to this locality. Our observation is not corroborative of this opinion. It is true, that persons are occasionally met with, who, from idiosyncrasy, conjoined with the atmospheric causes predisposing to these affections, are prone to diarrhoea when drinking freely of the water from our wells. The same thing, it is well known, often happens to those who use the *river water*. Yet, it is equally true that

these diseases have not diminished in the frequency of their occurrence since the multiplication among us of cisterns, or since the drinking of *cistern water* has become more common. We have made it a matter of inquiry, among those applying to us for advice whilst labouring under diarrhoea, to ascertain what influence, if any, the constant drinking of the different kinds of water used by our population had in the induction of this disease. The results of these inquiries have satisfied me that, with the generality of the cases which have come under my observation, the daily use of either of the different kinds of water mentioned, has had little or no influence, in the abstract, in the causation of the bowel affections prevalent among us.

It is to an *atmosphere* polluted by the gases evolved from the vegetable and animal remains so abundantly found on, and very near, the surface of the two and a half square miles which include the present limits of the city of Memphis, that we think the medical philosopher, after an impartial survey of the facts, will be disposed to attribute much of the sickness and mortality of this place during the warm season.

Before proceeding to speak of the special diseases which have prevailed here during the past year, either as *epidemics* or as *endemics*, I wish to offer a few remarks, in a general manner, respecting *them*, and the *causes* of the three divisions into which I shall arrange them.

In the *first* class will be placed *measles*, *malignant cholera*, and *typhoid fever*, not because there is any similarity either in the diseases themselves, or in the causes producing them, so far as we know; but in order to separate the diseases of occasional and uncertain occurrence, which prevailed here last year, from those which are our annual visitants, and that may be styled, in all truth, the *endemico-epidemics* of Memphis.

In the *second* class, we shall place the bowel-complaints, viz., *diarrhoea*, *dysentery*, *cholera morbus*, and *cholera infantum*; the *causes* of this group of morbid affections being different, as we believe, from the former class, as also from those constituting our

Third division, the *paroxysmal fevers*.

As the *causes* productive of the diseases placed in the first class of the arrangement we have adopted are not generally held to be the results of any known *local* agencies, however much they may be modified in their course by these latter, it will not be in accordance with the plan we have marked out for this paper, to indulge in speculations concerning the inscrutable causes inducing the three disorders placed in this division.

Of the *causes* of the diseases known and acknowledged to be *endemical*, I shall feel more at liberty to speak, as they proceed in a great measure, if not entirely, according to our opinion, from *local materials* profusely scattered over the entire limits of this city. Deposits of excrementitious and other offensive substances, in the manner before alluded to, are permitted to accumulate in heaps, either on or very near the earth's surface, in winter, which, at the commencement of the hot season, and during its continuance, undergo

the process of decomposition, in accordance with the immutable laws of nature. It is during the period when this process is going on, when the laws of chemical action are exerting their powers to the fullest extent on dead organic matters, that our annual diseases, in the forms of the different bowel affections, and the paroxysmal fevers, with their concomitant evils, are most prevalent and fatal.

The disorders of the bowels, so prevalent here in the months of May and June, are produced, we firmly believe, by the poisonous exhalations arising from the masses of filth with which Memphis abounds; or, to use the language of another, from the *miasmata* arising "from mixed animal and vegetable remains, but especially from *animal excreta*."

The cause producing the paroxysmal forms of fever here, as elsewhere, we believe, in common with a large majority of the profession, to proceed from a peculiar poison generated during the decomposition of *vegetable* substances under certain circumstances. This poison, of which we know comparatively nothing except from its effects, is called "*malaria*," and is different, according to the views we have adopted, both in its composition and in its effects on the animal economy, from *miasmata*.¹ To this latter we have attributed our bowel-complaints; and we will again repeat it, that the materials for both *malaria* and *miasmata* are to be found, in Memphis, in greater abundance, we are sorry to say, than in any other place of the same size in America.

It may, we think, be set down as a settled point that *two*, or more, of the poisons capable of causing disordered manifestations in the human subject, can, and often do, act upon the organism at the same time. The common opinion, verified by the almost daily observation of physicians practising in unhealthy situations, is, that the *malarious poison* exerts a greater or lesser influence on all diseases attended by febrile phenomena, not excepting the purely inflammatory class, in regions where it is known to abound by its effects on the inhabitants. And it is also true that the *miasmatic poisons*, or those produced from the decomposition of excrementitious accumulations, "where no provision is made for the removal of the polluting matters, as in unsewered villages and streets," do exert their influences on diseases proceeding primarily from other causes, and that, by the commingled actions thus originated, disease in its various forms becomes complicated; symptoms are rendered difficult of interpretation; diagnosis is made obscure; and the therapeutical management of the sick will hence require much tact and skill for its success.

From what has been said, we do not wish to be understood as asserting, that the *only* causes of the different bowel affections are the *miasmatic poisons*. On the contrary, we are well aware that dysentery prevails in rural districts

¹ For the views expressed in this paper on the poisons of *malaria* and *miasmata*, and their commingled influences in the causation and modification of disease, I am indebted to a writer in the January number of the *British and Foreign Medico-Chirurgical Review* for 1849, p. 75, *et seq.*

where the atmosphere is not polluted, as in towns and cities, by exhalations from excrementitious matters undergoing decomposition—that diarrhoea and cholera morbus often result from the use of indigestible food—and also, that the sudden checking of the functions of the skin will have the effect of inducing either part or all of these diseases.

Having in a brief and imperfect manner alluded to the *materials* and the poisonous emanations which, arising therefrom, act as *causes* of the prevailing diseases of this locality, I shall proceed to speak of the individual disorders named in our formula, in the order in which they have been placed; and first of *measles*.—This disease, as is its usual custom, prevailed in this city as an epidemic. The first cases that came under our observation, the past year, were seen early in the month of February, from which time it continued to spread, reaching its acme in June, thence gradually declining until about the end of September, when it disappeared, and was not seen again up to the close of 1852. It was, according to our views, a mild disease until the warm season set in, and it became complicated with the bowel disorders then co-existent. During February, March, and April, the sequela were slight bronchial affections, with the usual diarrhoea; both of which being readily controlled by appropriate treatment. The *deaths* from it up to the first of May were only *two*. In May and June the accompanying diarrhoea assumed a more intractable form, from the superadded influence of the *miasmatic* poison on subjects predisposed by previous disease—the *epidemic* having passed through its stages apparently surrendered its victims to the *endemic* influences of the season. Hence we find in the Bills of Mortality twenty-nine deaths recorded in these two months from measles; which is more than double the number dying from the same reputed cause during the other six months of its prevalence, the entire number of deaths for the period last named being only twelve.

It is worthy of remark, that during the eight months' prevalence of *measles*, our mortuary returns show only *two deaths from cholera infantum*; whilst for the same period of the previous year, the returns fix the number dying of the latter disease at *forty*, when the former and all other epidemical influences were absent from this place.

From the foregoing facts, the conclusion is, to say the least, legitimate, that the commingled influences of two distinct poisons—the poison causing the eruptive disease, and that originating the bowel affection—were acting at the same time on the same individuals, and after the former had spent its force, and was to some extent eliminated from the system, the latter commenced its work and carried it on to the closing scene of the pathological drama.

Malignant Cholera made its appearance here last year in the month of May. Its prevalence was greatest in June. After the middle of July, no cases of it were met with until the last days of September, from which time to the close of the year occasional cases occurred among intemperate and exposed persons, two deaths by it being reported in December.

To what extent cholera was influenced by the condition of our atmosphere at the periods of its greatest prevalence in this city, we possess no positive knowledge. But amidst the obscurity which veils the etiology of this truly formidable disease, we think it not unwise to suspect the polluted atmosphere then present, to be a predisponent aid in the propagation and development of the choleraic poison, inasmuch as the visitations of that disease have been regularly most serious and protracted during the season of the year when the endemial bowel complaints are most rife. In 1849, cholera prevailed among us in an epidemic form in June and July. And in 1851 and 1852, though not epidemic at any time during these two years, its prevalence was greatest from the middle of May to the middle of July, the precise time when diarrhœas, dysentery, and their congeners are in the ascendant. Whilst the well provided for and temperate classes of the population are suffering from the latter, the former selects for its victims the intemperate, and those occupying filthy, badly ventilated, and crowded habitations.

Cholera in most instances commenced here, as usual, with diarrhœa, which is its *first stage*. When this was neglected, the discharges from the bowels gradually became more copious and frequent, until, at different periods in different cases, they were accompanied by nausea, vomiting, cramps in the lower extremities, extending often to the abdominal and other muscles; with increasing thirst; a failing pulse; suspended biliary and urinary secretions; colliquative perspiration, and a most rapid collapse of the vital functions in fatal cases. Of all the symptoms attendant on cholera, our experience has taught us to dread no single one so much as *profuse perspiration*. We have seen patients recover after the stage of collapse had continued for some time, when the skin kept *dry*, or nearly so; but we have yet to witness the first case of recovery where the reverse obtained, although the sick may have been seen, and prescribed for, at a time when the pulse still retained a degree of strength and volume.

The most remarkable characteristic of cholera, as we have seen it in its sporadic form for the two past years in Memphis, has been its great fatality. It was by far more unmanageable during the periods named than in 1849, when it was epidemic. Each and every plan of *treatment*, so far as we can learn, has signally failed, though all the tried and vaunted remedies have been faithfully applied. Of each of the different plans pursued, it would be superfluous in this place to speak, as we have nothing of interest concerning them to offer. We can but deplore the melancholy truth that, as yet, the profession are ignorant of any certain means calculated to arrest the course of this awful scourge, the number of deaths from which in this city, last year, was set down at *seventy-five*; by far the largest mortality caused by any other single disease!

The opinion, that *typhoid fever* is not apt to prevail in regions of country where the paroxysmal forms of fever are endemial, is quite general we believe with medical men. The comparative rareness of any extensive prevalence of

the disease in regions known to be the habitats of the latter class of fevers has been favourable to this view of the subject. But, if we are not mistaken, the typhoid form of fever is becoming more and more common in localities famous for the prevalence of remittent and intermittent fevers; and that a modification of the opinions heretofore entertained on this point, is not unlikely to be effected by the recorded observations of physicians located in malarious regions of country.

It is certainly true, that the disease is on the increase in this section, notwithstanding the fevers attributable to malaria have not been in anywise diminished. Eight years ago, when we first came to Memphis, *typhoid* fever cases were rare, and the persons affected were mostly young men recently arrived from more northern latitudes. In a conversation held during the first year after my removal hither, with the late Dr. Wyatt Christian, who was the eldest resident physician at the time, I inquired if typhoid fever had ever prevailed to any extent in this place, or its vicinity, since his acquaintance with it. His reply was, that so rare was the disease within the range of his practice (and it was extensive), that he was not certain whether a well-marked case of it had ever come under his observation.

Our mortuary records are confirmatory of the fact of an increase in the mortality from this cause. And although it may with considerable truth be said that the record is not entirely reliable, so far as the *names* of diseases are concerned, yet observation fully *sustains* the fact of an increase annually, we can safely say, of *typhoid fever* cases, and, consequently, an extension yearly of the number dying therefrom.

Louis attributed this form of fever to a change in the dietetic habits of those who had resided only for a short time in Paris, as most of the cases which came under his cognizance were young persons whose sojourn in the city had not been long. A writer in the number of the *British and Foreign Medico-Chirurgical Review*, already referred to, ascribes the continued fevers of the British metropolis to the miasmata proceeding from the fecal accumulations contained in the cesspools, and other depositories of filth, in London. But neither of these views will satisfactorily account for the origin and prevalence of the disease in rural districts, where, in some sections of our country, it has become a terror, from the frequency of its visitations, to the people living in long-settled places, and in otherwise highly salubrious situations, remote from towns and cities.

If *typhoid fever* owes its origin to *malaria*, as is contended for by many highly respectable writers, for whose opinions we entertain the greatest respect, it must be a malarious poison differing essentially from that giving rise to the paroxysmal fevers. In the New England States, where the intermittent and remittent fevers have long since ceased to exist, the typhoid form prevails most extensively; and in the sickliest regions of the South, where the continued fever ought to be very prevalent, if dependent for its causation on that which produces our malarious diseases, we find typhoid fever to be of

rare occurrence, compared with the extensive prevalence of the fevers everywhere recognized as the legitimate offspring of undoubted malarious parentage. So different, moreover, is the typhoid from the purely paroxysmal fevers, in its symptoms, its course, and in our inability to abridge its duration, that we are disposed, if not to deny, at least, to doubt the validity of the opinion which ascribes the disease and its causation to the *malarious* poison.

In nearly every case of typhoid fever which has come under our care, the attendant *symptoms* have manifestly indicated lesions of the nervous centres, and of the intestinal mucous membrane. These lesions seem to constitute the rule in the pathology of the disease, as it is met with among us. Whatever secondary complications may be wanting, in different cases, marked derangements of the innervation and of the bowels are seldom absent.

The formative stage of the disease is usually slow and insidious. Coming events are not generally foreshadowed by the earlier symptoms, among the most prominent of which is a loose state of the bowels. During this period, cases seldom come under our cognizance; and even after the disease has made farther progress in its course, it is not always an easy matter to decide, especially at a time when other forms of fever are prevailing, that the case is one of the typhoid type. Indeed, it often happens that the true character of the disease, in its earlier stages, is not fully recognized until after anti-periodic remedies have failed to arrest it. The fever still continuing to progress, attended by hot and dry skin, frequent pulse, meteorism, epistaxis, with increasing delirium, &c., ultimately mark the true character of the disease, if not earlier suspected.

Whether the affection be recognized early or at a more advanced period in its progress, *treatment*, here, as is generally acknowledged elsewhere, has but little if any control over its course and duration. Onward is its inexorable career, despite professional efforts to arrest its course, until its victims pass through its stages to convalescence, mere breathing skeletons, or are consigned to the grave!

Viewing typhoid fever as a specific disease having a definite course to pursue, our usual plan is to *watch* rather than to expect to *subdue* it. To control the secondary complications, if they appear, by appropriate remedies, so as to simplify the original disease by the removal of any local organic disturbances which may be superadded to it during its course, and to guard carefully the period of *crisis*, which comes sooner or later in almost every case, by suitable means, we have found to be attended with better success than a more active and energetic treatment pursued with a view to arrest its progress.

Notwithstanding the views just expressed, we have been induced, on the testimony of others, to give the "*abortive treatment*," as it is called, a trial. We have administered the sulphate of quinia in quantities varying from a few grains to half a drachm, at a time, and have repeated these doses until satisfied that the medicine was doing no good; the only marked effects from its em-

ployment being, in some cases, a diminution of the frequency of the pulse, but very generally an increase of the restlessness, the sleeplessness, and the tinnitus aurium and deafness symptomatic of the fever. It has occasionally happened to us to meet with cases of typhoid fever in our practice, at seasons of the year when the paroxysmal fevers were prevailing, at so early a period after their commencement as to render it difficult, at least for us, to determine from the symptoms then present the form of fever to which they belonged; and the very *failure* of an energetic treatment, in which *quinia* formed an important part, was, we confess, the first thing to cause us to suspect the nature of the disease with which we had to do, and to lead us to modify our course accordingly.

Judging from the symptoms observed during life, which we have carefully endeavoured to watch and to analyze, and also from the appearances diligently investigated in several *post-mortem* examinations made in our presence, we are led to believe that pathological disorganizations of important viscera, proceeding from inflammation and its results, are rarely the cause of death in this disease as it has appeared among us. Our patients die, we would say, in typhoid fever, from a deficiency of that vitalizing principle in the blood, which imparts to the nervous system the power requisite to sustain and keep in action the organic functions.

After the foregoing sketch of the three diseases placed in our first division, with the attempt to show that the first two were modified to some extent by the *local* causes existing in this city at the time of their prevalence, I shall next endeavour to give a short account of the *endemics* that visited us last year, in accordance with the plan proposed at the outset.

The diseases enumerated as resulting from *local miasmatic poisons* engendered from the decomposition of animal and vegetable matters, "but especially from animal excreta," are the various bowel complaints: and first in order comes—

Diarrhæa.—This disease is not confined exclusively to any particular season, as our mortuary records give returns of deaths from this cause in every month of the past year, with the exception of February. This fact does not, as we conceive, invalidate, in the least, the views we formerly expressed concerning the influence which heat and accumulated filth exert in its production. During the six warm months in the year, from May to October inclusive, we find 41 of the 54 deaths from this disease to have occurred; a circumstance sufficient to prove that season manifestly has a marked influence over its prevalence.

The form which is usually met with among us is that called, from the character of the discharges, *serous diarrhæa*. Pain in the bowels, febrile excitement, or constitutional disturbance in any marked degree, rarely accompany the liquid, and, more or less frequent, alvine dejections, at the commencement. It is, in a majority of cases, only after the disease has continued some time that the functions of the stomach and liver become implicated, as is

evinced by loss of appetite, increased thirst, and the whitish colour of the stools.

We are not aware of any particular conditions or symptoms preceding the disease sufficiently often to constitute a premonition. Indigestion and flatulency are occasionally its forerunners; but most frequently its advances are gradual, the individuals attending to their accustomed employments, and very often neglecting to alter the diet until they are forced to seek for medical advice.

Of all our diseases, there is no one to which the unacclimated is so subject as this. It is the initiative to the climate, and the subsequent disorders which this locality is likely to impose on the new-comer.

Fortunately for all concerned, diarrhoea, in its most prevalent form, yields readily to treatment in most cases. If prescribed for early it is easily arrested by astringents and opiates, singly or combined; with attention to diet. The mineral and vegetable astringents are both useful. Of the articles of this class we have a partiality for the sulphate of zinc, and the tannic acid, in preference to all others. The *tonic* as well as *astringent* properties of these medicines commend them specially to our attention in a disorder evidently connected with a relaxed and debilitated condition of the intestinal canal. When given with *opium*, they very rarely fail to check the discharges in a short time. The mas. hydrarg. or hydrarg. cum cretâ we generally advised to be taken for one or two nights, to maintain the healthy function of the *liver*, as the natural office of the organ is apt to be interfered with by both the disease and the remedies used to subdue it.

Just antecedent to, and during the prevalence of malignant cholera here last year, and also in 1851, a form of *diarrhoea* prevailed in common with, but differing from the foregoing variety, inasmuch as it was attended with fever, frequent pulse, coated tongue, thirst for cold drinks, nausea and vomiting, a scanty and high-coloured urine, and frequent painful discharges from the bowels of liquid green or black-looking matters. This form of disease, to which the terms "*bilious diarrhoea*" are not inappropriately applied, is not of common occurrence in this city, but appears, in some way, to be connected with a choleraic atmosphere for its causation. Be this as it may, it is certainly a very painful affection, judging from the suffering apparently experienced by those labouring under its attacks.

Calomel and opium, in doses sufficient to meet the exigencies of different cases, were the remedies principally relied on by us for its cure. We generally found the disease to yield, if not before, as soon as the constitutional effects of the mercury became manifest. When the accompanying fever was clearly of the *remittent* type, the administration of the sulphate of quinia formed an essential part of the treatment, and aided greatly in bringing about a speedy termination of the morbid actions.

Dysentery did not prevail to any great extent last year. The cases of it which came under our care were generally mild. A large majority of them

were unattended by much constitutional disturbance, the disease consisting, mainly, in a slight inflammation of the lower portion of the *rectum*. This mildness of the disease, we judge, was general throughout the city, from the fact that only thirteen *deaths* are reported to have occurred from it during the year.

The *symptoms* were such as to render the diagnosis remarkably easy. The *tormina* and *tenesmus* were comparatively slight. The discharges from the bowels consisted mainly of mucus, more or less mixed with blood, small in quantity, the passing off of which being, as is common, attended with considerable straining, and a desire to continue long in the act of defecation.

The *anodyne* treatment was that from which we derived the most marked and decided benefit. The disease being generally, as before observed, entirely local and uncomplicated, anodyne enema of starch and laudanum, or opium in substance or in some of its numerous preparations, administered by the mouth, with an occasional laxative, constituted our chief remedial means. A favourite prescription with me was pulverized rhubarb and pulv. ipecac comp. in such doses as different cases required.

Dysentery has at no time since our acquaintance with this city, prevailed in it as an epidemic. Every year, nevertheless, furnishes cases of this complaint for treatment, and among them some that prove quite intractable, mostly among persons debilitated by other causes; but, as a general rule, we are disposed to view it, from what we have seen, as a mild disease, owing its origin to the miasmatic influences which produce diarrhoea, taking on the dysenteric form from some inexplicable morbid proclivity, predisposing the rectum to disease in some individuals, rather than other portions of the intestines.

During the warm months, when the digestive organs are naturally disposed to be easily disordered, it occasionally happens that indulgences in the use of improper food give rise to nausea, vomiting, and purging, or, in other words, to *cholera morbus*. Every season furnishes cases of this disease, in Memphis; but we are satisfied that a portion of the deaths recorded under this head last year, were caused by genuine *cholera*, but were charged to the former for reasons not commendable because intended to deceive.

Cholera morbus, if seen early, is not difficult to check in its course by proper remedies. If neglected, it shortly assumes a threatening aspect, according to our observation of it in this place.

As patients are seldom seen until after the contents of the stomach and bowels have been removed by vomiting and purging, evacuants are seldom required at this period; the pressing indication is to allay the irritation of the *primæ viæ* as speedily as possible. With the application of strong sinapisms to the epigastrium and extremities, our reliance for prompt relief, is on *morphia and ice*. One grain of the former is administered at a dose, dissolved in a tablespoonful of ice-water. If this is ejected from the stomach, another portion is given immediately, advantage being taken of the interval of repose of the stomach which succeeds vomiting. The retention of a portion

or two of the morphia usually restores quietude, when aided by small quantities of powdered ice frequently repeated. Some hours after the patient has recovered from the urgent symptoms, we advise a mild aperient to be taken, which, in most cases, is all that is necessary to secure perfect convalescence, if proper attention be paid to the diet.

Common rumour has stigmatized Memphis as the *graveyard of children*. The mortuary records of 1852 show the deaths among this interesting class of our population, of five years of age and under, to be 263; which number is a large fraction over one-third of all the deaths among our citizens for the year! An examination of the record also shows, that 117 of these children died during the months of May, June, and July, the season when bowel complaints are always most prevalent in this town, as has already been made apparent. It will, in view of the facts just stated, appear almost incredible, that our bills of mortality should only give *five deaths* from *cholera infantum* during the whole of last year.

When speaking of *measles*, I stated the fact, that most of the mortality attributed thereto resulted from the bowel affections, which succeeded immediately on the subsidence of the former. The cause of death, it was then said, was not from the *antecedent*, as stated in the bills of mortality, but from the *subsequent* disorders, and amongst these the *cholera infantum* was certainly not the least.

The paucity of deaths on our records, last year, from the disease under consideration, is likewise attributable to the circumstance, that not a few of those placed to the account of malignant cholera, and inflammation of the brain, ought, in justice, to have been set down to *cholera infantum*. The table to be found near the close of this paper, showing the number of deaths, in each month of 1852, from the diseases treated of in this report, with a few others, will aid, we are inclined to believe, in sustaining the opinions just expressed.

It is during the *second summer*, when children are cutting the molar teeth, that the *cholera infantum* and other bowel complaints prove most destructive to the young. The process of dentition appears to favour the active operation of the miasmatic poison, which, in accordance with our views, causes these disorders in this place, as well as in other towns and cities. The only *prophylactic*, therefore, that can be depended on, is the removal of the children most disposed to "the summer complaint" to the country, before the commencement of the season of its prevalence. Even after the disease has made its attack, speedy relief is most to be expected by removing the sufferer out of the polluted atmosphere which produced it; for as long as he is kept exposed to the *cause*, the chances of a cure must be unpromising.

From the sulphate of quinia, administered with a view to control the accompanying fever—supposed by some to be of the remittent type—we have derived little or no curative advantage in the treatment of *cholera infantum*. My experience, on the contrary, has satisfied me that it exerts no salutary influence, to say the least, at an *early* period of the affection, and I now rarely

prescribe it except, in the latter stages, as a tonic to sustain the patient's strength, after the urgent symptoms have been subdued by *mercurials* and *anodynes*, with such adjuvants as particular symptoms may require.

Towards the latter part of July of the past year, the bowel complaints of this locality were rapidly disappearing, and it was interesting to witness how the lingering cases, which then came under cognizance, were complicated with the diseases about to take their places. It was at this time that the *paroxysmal fevers* were becoming common, all coexisting maladies submitting, in a great measure, to the reign of *malaria*, and acknowledging their fealty to it by assuming the forms of *periodicity*, which are its well-known characteristics.

The *remittent* is the form of fever most prevalent here in July and August. When the nights begin to become cool and chilly in September, and thence to the close of the sickly season, *intermittents* become quite common, and are oftener met with than the former. The remittent fever continues to prevail, however, until arrested by frost, its symptoms increasing in intensity as the autumn advances.

Of the two common types of remittent fever, the quotidian and double-tertian, the latter was much the oftenest met with by me last year. Among the cases of intermittent fever which came under my observation during the same period, the *tertian* was by far the most common. We have often been surprised at the comparatively few cases of the *quartan* type of intermittent fever met with in this region—the old-fashioned “third-day fever and ague,” which was wont to take such *feeling* liberties with our person in years gone by. Can this be accounted for on either of the following grounds, viz., that the poison causing intermittents exists in greater abundance now than formerly; or else in a more concentrated form? or is it in consequence of our population being enfeebled and enervated by constantly inhaling an impure atmosphere?

Concerning our *intermittent fevers*, it will suffice to say that they mostly come on without much if any premonition, the seizure being generally sudden and unexpected. The quotidian is most apt to make its attack in the morning, or during the forenoon; whilst the tertian selects oftenest the *after* part of the day for its invasion.

The three stages of the disease are, in a majority of instances, well marked; the *second* being apparently governed, in regard to duration, by the *first*; that is to say, if the latter be a protracted rigor, the succeeding hot stage is short, and *vice versa*. When the *first* stage is long-continued, and is attended by coldness of the surface, a scarcely perceptible pulse, intense thirst, extreme restlessness, or a tendency to coma, &c., the reaction which follows, if reaction there be of a febrile character, is exceedingly slight, and the patient is indeed fortunate whose circulation can be restored to a point approximating to the healthy standard. Intermittents pursuing this latter course constitute our *congestive fevers*, and it is only when the disease takes on this malignant form, from neglect or otherwise, that it proves fatal under the physician's care.

The occurrence of malignant cases of intermittent fever would be more frequent in this place, we have every reason to believe, were it not for the free use made of the sulphate of quinia after the *first* paroxysm. Experience and observation have taught us that the mildness of the first attack is not a reliable guarantee that the succeeding paroxysm will be without danger. No precious time, therefore, is lost in "preparing the system" previously to administering the great febrifuge. If the indications require the use of other means, they are prescribed conjointly with quinia; our chief concern being to bring the patient under its speedy influence, and to maintain its effect on the nervous and vascular systems until the disease is subdued.

Relapses of intermittent fever, as might reasonably be expected, are of every-day occurrence in Memphis, and prove, in many instances, most annoying to both patient and physician. Our variable climate, during winter and spring, serves as an exciting cause; and the malarious atmosphere of summer and autumn supplies fresh material to the unextinguished embers still alive in the system.

Contrary to what was expected after the prevalence of malignant cholera, the fevers of this climate succeeding that disease, in both the past years, manifested, during their course, no unusual tendency to become complicated with an irritable condition of the intestinal mucous membrane. Indeed, it is a remarkable fact that, so far was this tendency from being present, the cases of remittent fever, which fell under my observation, were usually attended with a *constipated* state of the bowels not often met with, in this locality, at any season.

Like the intermittent, the *remittent fever* was not usually preceded by any well-marked stage of incubation. The disease, in most cases, came on suddenly and without warning, with a well-defined chill, or rigor, generally of short continuance, and seldom recurring afterwards; followed by fever and the symptoms common to febrile reaction; the paroxysms terminating in a more or less perfect remission, according to the type the disease assumed, being less decided in the *quotidian* than in the *double-tertian*.

The symptoms attendant on the remittent fever, the past season, would entitle it to be placed with the variety known as the "hepatic," or "bilious." Functional derangement of the *liver* constituted a prominent feature of the disease, as was clearly manifest in the vomiting of bilious matters, the yellowness of the skin and eyes, as well as by the colour of the stools, and the appearance of the urine. Occasional cases were also met with, of a more grave character, in which the biliary secretion was entirely suspended. In these, there was no bile in the matters ejected by the stomach; the stools were of a whitish cast; the urine was heavily loaded; and the jaundiced hue of the body was so well-marked as to leave no doubt concerning the organ bearing the onus of the disease.

In the treatment of the bilious remittent of the past season, *bloodletting* by venesection was not resorted to by me in a single instance. Rarely, indeed,

does the pulse indicate the use of the *lancet* in the treatment of any of the diseases occurring in this place, as it is almost invariably found to be soft and unresisting under comparatively slight pressure. And when venesection has been resorted to with a view to control some urgent symptom in this disease, and even in those of an undoubted inflammatory character, the opinion of the profession here, so far as we have heard it expressed, is that it is of questionable efficacy, and when seemingly it is most needed, is illy borne by the sick.

The indications during the past sickly season, presented by the symptoms attendant on our remittent fever, were to allay gastric irritation when present; to establish healthy secretion; overcome constipation; and above all, to prevent as speedily as possible the recurrence of anticipated paroxysms. As full details on each of these points would be inconsistent with the design of this paper, it may be sufficient to say, that anodynes, mercurials, and purgatives, were employed by us as the circumstances of each case required the use of one or the other or of all of these. These remedies are employed by me, not on account of their *curative* powers over the fever of which we are speaking, for that may well be questioned, but in order to *counteract* the effects on the functions of organic life of the *poison* causing the disease, our reliance for the *neutralization* of the poison itself, and its entire eradication from the system being upon quinia the *magnum remedium*.

In the administration of this most valuable agent, we do not wait for an entire remission of the fever. We commence its use with a knowledge of its perfect safety and certain success, at any stage of the malady, if the quantity administered be proportioned to the emergency demanded by the symptoms. We have found great *frequency of the pulse*, whether met with during the exacerbation or in the imperfect remission, to require larger doses of the febrifuge than any other condition we have observed connected with the remittent form of fever. The tests of the suitableness of the doses of quinia administered are a reduction of the frequency of the pulse, with an increase of its volume, and a moisture of the skin. Should the number of the heart's pulsations not be lessened in *three* hours after the first portion has been taken, we consider that the quantity then given was not sufficient for that particular case, and another and larger dose is administered.

When the nervous and vascular systems are brought under the influence of the quinia, our rule is to maintain its effect by diminished doses until the paroxysms ceased to return. But then we do not discontinue the remedy at once, our experience being that patients suffer less from its effects, by letting down their nervous systems gradually, as it were, from the state of exalted excitement consequent on the use of the remedy. Given in this manner, we are not often troubled with after-complainings of loss of hearing or impaired vision. This is partly due, no doubt, to the fact that we seldom meet with cases, in this locality, of remittent fever requiring larger doses than *ten grains*.

at once, followed afterwards by *five-grain* portions at such intervals as we may think the requirements of different cases demand. For patients peculiarly susceptible to the effects of the *sulphate* we substitute the *valerianate* of quinia, as the latter, though equally potent, does not produce so much distress.

The sickly season of last year was unusually protracted, owing to the lateness of the appearance of cold weather. In this particular, as in most other meteorological conditions, the past differed essentially from the preceding season. On the mornings of the 28th and 29th of September, 1851, we were visited by unusually early frosts; whilst in 1852, a degree of cold sufficient to check the growth of vegetation was not felt here until the night of the 8th of November, thus making a difference of more than a month last year in favour of the continuance of the autumnal diseases; these, as was before remarked, being more difficult to manage than at an earlier period of the year, whether they be primary or relapsed cases.

At a late period of the prevalence of the sickness last fall, I encountered a few cases of an anomalous form of fever—as did some others of my professional friends—which I confess myself at a loss where rightly to place in the nosology of febrile diseases. These cases came under observation at a time when scattering cases of cholera were occurring, and it is not improbable, were the production of the commingled influences of the *malarious and choleraic poisons*. Be this as it may, the symptoms, as well as the failure of the treatment found so efficacious in the purely paroxysmal fevers, serve to place it at a remote relationship, if, indeed, it has any affinity to these diseases. As I made short notes at the time of its prevalence of the leading phenomena which attended its course, I will transcribe from them such parts as I think may prove interesting.

The cases of fever above referred to, were seen during the first and second weeks of November, being the week before and the week after the first frost of last autumn. Its early cessation, after the commencement of cold weather, would seem to indicate its connection with *malaria*, but yet it differed in the malignity of its symptoms, from the well-marked cases of remittent fever prevailing at the same time.

The attack, in most of the cases which came under our observation, was not preceded by previous indisposition. Chilly sensations, or a well-marked cold stage, of short duration, ushered in the disease. The reaction which followed was attended with intense heat of the surface; eyes more or less injected; circumscribed flushing of the cheeks; frontal headache with pain in the back; pulse ranging in frequency from ninety to one hundred and twenty beats in the minute in different cases, and continuing throughout the entire course of the attack feeble and unresisting; the tongue at the commencement gave but little evidence of departure from a normal appearance, but very soon began to show a line of dry and elevated papillæ extending from the tip of the organ along its centre backward, which daily continued to widen and assume a dark-

brown color, exhibiting a notable contrast with its smooth and red tip and edges. The thirst for cold drinks was intense. There was much tenderness on pressure over the epigastrium. Nausea, with vomiting of pale green fluids were troublesome symptoms. The bowels were constipated until moved by medicine, when the dejections were fluid, resembling in color the matters thrown off by vomiting. The urinary secretion was small in quantity and highly coloured, giving out a strong ammoniacal odour. Hemorrhage from the nose was common; in a few it occurred from the nose and bowels; and in one case which we attended, in addition to hemorrhage from the parts named, blood was freely lost from the *genitals* two weeks after the last menstrual period. Sleeplessness and jactitation were absent in no instance. There was but little if any delirium present in any of the cases. Intellect clear. No eruptions discoverable. Great prostration of the vital forces absent in no instance.

The duration of the disease was from five to fifteen days, most of the cases being convalescent during the first week. It had, like the continued fevers, its morning periods of partial remission, but they were not the clearly-marked remissions of the paroxysmal fevers prevailing at the time.

Taking into consideration the unpromising character of the symptoms, the disease yielded more readily to treatment than would appear probable. The *gastro-intestinal mucous membrane*, which, as has been before mentioned, was so exempt from implication in the *remittent fevers* of the season, was now the part most ostensibly and seriously involved in the morbid manifestations attendant on the form of fever of which we are speaking.

The remedy which in our hands exercised the most beneficial influence over the symptoms was mercury. After the bowels were evacuated, our reliance was placed on small doses of calomel and opium, repeated as often as the urgency of the symptoms in different cases required, and steadily continued until the disease yielded. Marked improvement of the symptoms invariably became apparent when the constitutional effects of the medicine were felt, but not before. Local depletion, and counter-irritants to the epigastrium, were highly useful adjuvants, as was ice in powder, in lemonade, or in pure water. These latter, when freely allowed in small quantities at a time, and frequently repeated, contributed much towards allaying gastric distress, and thereby adding to the comfort of the sick. The infallible remedy in the treatment of *periodic* fevers did not succeed in "cutting short" the course of the disease under notice, though a full and fair trial was made with it in several instances. Even as a tonic, in small doses, given after the subsidence of the fever, quinia did not appear to answer as well as the mineral acids.

The quantity of blood lost by some of the patients, and the manner in which the apparently prostrated vital energies sustained the loss, were truly astonishing. So far from being really injurious, we believe the hemorrhage from the bowels was of signal service in relieving the congested capillaries of

the intestinal mucous membrane, as a fatal termination occurred in no instance where this condition was present. To restrain the hemorrhage within the bounds requisite for the patient's safety, as well as to impart the salutary influence which, it is very generally believed, it is capable of exerting over the diseases of mucous membranes, the spirit of turpentine was administered in small and frequently repeated doses, with undoubted advantage.

It is a fact worthy of note that, so far as we have been enabled to learn the subsequent history of these cases, not an instance of *relapse* has supervened since recovery, now four months after the cases were under treatment. Whether this circumstance, taken in connection with the malignant character of the symptoms attendant on the disease we have so imperfectly portrayed, should give just cause to dread the future, in this city, if the past neglect of every measure to improve its salubrity continues, we leave to the decision of those who are better informed than we profess to be in the etiology of febrile diseases.

Before closing this paper, it will not be amiss, perhaps, by way of supplement, to add that an unusual number of cases of abscesses have been presented to the observation of the profession, in this place, in the course of the past two years especially. During the hot weather of 1851, the great number of *boils* and *felons* which were then seen was attributed to the excessive heat of the summer of that year; but as the same thing happened the past season, to a greater extent, if we mistake not, than previously, it is not unlikely that we have been subjected to the influences producing the local disorders called, in other places, the "*furunculoid epidemic*."

The subjoined table, compiled from the Records kept by the Secretary of the Board of Health, will serve for reference in connection with the statements made in the preceding pages. It might have been greatly extended; but my design in compiling it was to present, not a full table of all the causes inducing our mortality, but, particularly, the number of deaths occurring in each month from the diseases mentioned in this paper, in order to show, from the mortuary records, a corroboration of our statements respecting the seasons of their greatest prevalence. The few other diseases included in the table we believe will be suggestive of reflections, and not without interest.

If to the 706 deaths reported by the Secretary of the Board of Health be added the 114 who died at the Memphis Hospital, we have a total of 820 deaths in this city, for the past year, "in a population of 10,608, allowing that population to have increased 20 per cent." since the census of June, 1850. According to these figures, the mortality last year in Memphis was 7.73 per cent. Dr. Merrill, in a recent able and very interesting anniversary address, read before the Memphis Medical Society, and since published in the *Medical Recorder*, estimates our population as not exceeding 10,000 last year, and the mortality, consequently, at 8.20 per cent., wanting a very small fraction only of being *one in every twelve*!

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	Sept'ber.	October.	Nov'ber.	December.	Total.
Cholera, malignant . . .	1	...	...	...	6	80	16	...	6	8	11	2	75
“ infantum . . .	...	...	...	1	...	1	...	...	...	1	1	1	5
“ morbus . . .	...	...	...	1	1	2	1	...	...	5	5	...	15
Consumption . . .	3	3	2	3	4	2	9	7	6	5	5	5	54
Croup . . .	2	...	...	...	...	...	1	...	...	1	1	1	6
Diarrhœa . . .	1	...	2	1	9	8	11	1	4	8	6	3	54
Dysentery . . .	...	1	...	...	...	3	...	1	1	3	2	2	13
Fever . . .	...	...	...	...	...	...	3	...	...	...	...	...	3
“ bilious . . .	1	...	...	...	...	3	2	3	2	1	1	...	13
“ congestive . . .	3	1	1	1	1	...	8	2	8	4	3	1	33
“ intermittent . . .	...	...	...	...	...	...	1	2	1	3	...	...	7
“ typhoid . . .	1	...	2	2	1	6	5	10	1	6	4	3	41
“ typhus . . .	...	...	...	...	...	...	1	...	...	...	...	...	1
Gastro-enteritis . . .	...	...	...	...	...	2	3	1	1	...	...	...	7
Hepatitis . . .	...	...	...	...	...	...	1	...	...	...	...	...	1
Inflammation of bowels . . .	1	2	...	2	...	7	...	1	1	2	...	1	17
“ brain . . .	1	2	1	1	1	7	9	2	1	2	...	1	28
Measles . . .	...	...	1	1	8	21	6	4	...	...	...	...	41
Pleurisy . . .	1	...	...	1	...	...	...	...	...	...	...	...	2
Pneumonia . . .	5	3	4	3	1	...	...	...	...	2	2	6	26
Other diseases, &c. . .	7	13	13	15	12	17	13	15	21	8	10	16	160
Diseases not specified . . .	11	7	4	3	11	10	14	9	14	10	5	6	104
Totals . . .	38	32	30	35	55	119	104	58	67	64	56	48	706

It is believed, and has been asserted by high authority, that *phthisis pulmonalis* is not only not so prevalent in malarious as in nonmalarious regions, but, also, that by a residence in localities confessedly abounding with malaria, the consumptive invalid might reasonably expect a permanent cure. An inspection of the foregoing table will show, as far as it goes, that facts are not in accordance with this opinion. *Pulmonary consumption*, as well as *typhoid fever*, is undeniably on the increase in Memphis, where *malaria* is almost as abundant as around the “Pontine Marshes.”

Nor is this all. An examination of the preceding table likewise informs us that *consumption* has not only consigned victims to our cemeteries during every month of the past year, but that exactly *one-half* of the whole number of deaths caused by it occurred from July to October inclusive, the very season of the year when *malaria* is in most abundance, and is exerting its power to the fullest extent.

No one will run the risk of making himself the subject of ridicule, by asserting that these cases are *strangers* who have come hither to spend their *summers* on account of the healthfulness of the place.

As far as the facts furnished by one malarious locality can be depended on, it may be asserted that an exemption from pulmonary consumption is not attainable by a residence in a sickly place, much less ought a cure to be expected under such circumstances.

MEMPHIS, March 10, 1853.

ART. VII.—*Description of a New Obstetric Forceps constructed upon Philosophical Principles.* By J. P. BETHELL, M.D., formerly Physician to the City Hospital, Philadelphia. (With a Plate.)

In attempting to trace the history of obstetrical forceps during a period of two hundred years, one cannot fail to be forcibly impressed with the marked alterations they have undergone. Since the time Chamberlen's secret became known to the profession, a great variety of instruments have been introduced, and it seems not a little singular that they should all differ in size and form.

Having encountered difficulties in the application and proper adjustment of forceps of several different patterns, the long as well as short instruments; and finding one to answer better than another according to circumstances, I was naturally led to analyze the principles upon which they were constructed, as well as to compare and contrast them. "I began to consider the whole in a mechanical view, and to reduce the extraction of the child to rules of moving bodies in different directions. In accordance with this plan, I more accurately surveyed the dimensions and form of the pelvis together with the figure of the child's head, and the manner in which it passed along in natural labour."¹ It then occurred to my mind that properly constructed forceps should adapt themselves equally well to the maternal pelvis and foetal cranium; in other words, the external outlines should harmonize with the curves of the female pelvis, whilst the internal form and dimensions should accord with the head of the child; at the same time the instruments should have a sufficient length to allow the blades to pass entirely above the superior strait or brim of the pelvis, whilst the lock remains entirely outside of the external organs.

Instruments founded upon these principles operate in the axes of all the planes and straits of the pelvis, whether adjusted above the brim, in the excavation; or at the outlet; always equidistant from sacrum and pubis, the blades naturally and of necessity follow the central curve of the pelvic cavity (the circle of Carus), and as a consequence operate in the axis of each particular plane and strait through which they may be passing. The cranial faces of the blades should fit the child's head closely, and yet a sufficient amount of room must be allowed to prevent the possibility of undue pressure being made upon it; when adjusted (if the curves be properly formed), the grasp is so perfect that slipping is out of the question; another and very decided advantage is, that meeting the head flatlong, there is no risk of indenting the skull or cutting the scalp. In the elegant short forceps invented by Dr. Davis, of London, the lesser and greater curves are in unison with the pubic and sacral circle—segments of the pelvic canal; but, in consequence of the shortness of their shanks, they cannot be applied when the head is arrested at the superior

¹ Smellie, quoted in Churchill's *Operative Midwifery*, p. 114.

strait; besides, the lock is greatly inferior to Siebold's; and again, the curves of the cranial faces are not in accordance with the convex form of the child's head.

The long instruments of Levret and the almost numberless modifications of them, French as well as German, comply with neither the pelvic concavities nor to the cephalic convexities. In consequence of their inadaptation the child is often mutilated or destroyed, and the mother subjected to the most serious or even fatal injuries. The blades being not less than three inches longer than the longest cranial measurement, cannot fit in the long or occipito-mental direction; the fenestra are too narrow to allow the parietal protuberances to pass through them; and the concave face, in the transverse or sacro-pubic direction, is not the segment of a circle whose diameter is three and a half inches. The sacral and pubic curves bear no relationship to the cavity for which they were designed. A pair in my possession (Baudelocque's) may serve as a specimen of the entire class; their whole length in a straight line is eighteen inches, blades eight and a half, shanks one and a half, handles eight and a half.¹ The radius of the posterior curve is seventeen inches, that of the anterior ten and a half. The widest space between the blades when the handles are closed, strange to say, is near the apex; and when the blades are sufficiently open to receive the bi-parietal diameter, say three and a half inches, the ends are full three inches apart; weight, twenty-six and a quarter ounces. No argument is required to show that this apparatus is totally unsuited to the purposes for which it was intended.

I shall now describe an instrument (see Plate) which appears to combine all the qualities of the short varieties without any of their disadvantages; at the same time *length*, the only point of superiority claimed for the long forceps, is secured without impairing its usefulness. Their entire length is sixteen and three-eighths inches; the measurement in a straight line from tip of the blade to shank, six and a quarter; length of shank, from the cavity to centre of the lock, three and a quarter; handles, from centre of the lock to extremities, seven inches; the radius of the sacral curve, about three and a quarter inches; radius of pubic curve near four inches; extreme width of the blade one inch and seven-eighths; fenestrum, one inch and three-eighths in width, and four and three-fourths in length.

The cephalic cavity, with the handles closed, measures from blade to blade at the parietal portion, that is, near the base, two and a half inches, but in consequence of the bi-lateral or parietal curve, it really measures at the centre three inches, at the temporal part two inches, and at the tips half an inch. This gives the occipito-mental curve, which has a radius of about five and a half inches. The bi-lateral or parietal curve, from the outside of the pubic to the outside of the sacral edge, has a radius of one inch and three-fourths; the rim

¹ The fragmentary parts, when footed up, appear to increase the length by half an inch; but this is accounted for by measuring a curved instrument in straight lines.

of the blade is five-sixteenths of an inch wide, and scarcely one-sixteenth of an inch in thickness at the apex, gradually becoming thicker towards the base; the face of the rim is turned slightly off at the very extremity. The *shanks* take their origin from the superior rims of the blades, and by means of a twist at their junction, the upper is made to ride over the lower and to be directly in contact with it. This allows the blades throughout their entire length to remain parallel, and the screw prevents any twisting. By this arrangement the blades are thrown into the cavity of the pelvis without the perineum being pressed upon by the shanks; the advantage is obviously increased in all operations above the brim. The shank, at its junction with the blade is three-eighths of an inch wide, increasing towards the lock where it is one inch. Each shank is one-quarter of an inch thick, and when in contact the two measure one-half inch; consequently, when the blades are adjusted, the room occupied at the vulva is about one-half inch in every direction. Placed on a horizontal plane, the extremities of the blades have an elevation of four inches; weight less than seventeen ounces avoirdupois. In their pelvic curves and in the sacro-pubic width, as also in weight of metal, the blades resemble Dr. Davis's; the shanks are not unlike Dr. Hodge's; the lock is Siebold's; the cranial curves, I believe, differ from all others.

The handles form a very obtuse angle with the shanks, by which means the power is expended in a proper direction; this was adopted at the suggestion of Mr. Rorer, an ingenious instrument-maker of this city. Their obvious advantages are that they always fit the female pelvis and the head of the child with greater accuracy than any other instrument in use.

They never operate in a false axis, but always follow the pelvic centres, and, consequently, the axes of all the straits and planes in which they may be adjusted; hence, far less power is required; besides, additional security is given to both mother and child, as they do not infringe upon either.

During the past two years I have applied these forceps in consultation with different practitioners; and on several occasions where the most approved instruments had been previously tried unsuccessfully.

EXPLANATION OF PLATE.

Fig. 1. Represents a section of the pelvis, showing its curves as well as the planes and straits, together with their axes and relative angles. The blade of the forceps being applied in order to show its relationship and adaptation.

The circle *A A A* follows the internal face of the sacrum, and represents its curve; which will be found to correspond with the posterior, or sacral curve of the forcep blade. The circle *B B* passing through the centres of the superior strait, middle plane, and inferior strait is the central pelvic circle, or "circle of Carus," and defines the true line of motion of bodies passing through the pelvic cavity. The circle *C C* represents the internal face of the pubis.

The perpendicular line *D D* represents the *axis* of the *body*. The line *E E* passes in front of the lumbar vertebra through the common centre of the pelvis, and through the centre of the outlet, and represents the *axis* of the *inferior*

strait. The line *FF* represents the axis of the superior strait, and may be considered as passing from the fundus of the uterus, through the centre of the inlet as well as the common centre of the pelvis.

The line *GG* represents the plane of the superior strait, *HH* the central plane, and *II* the plane of the inferior strait. The forcep blade being applied, it will be found occupying the central pelvic excavation; at the superior strait it is equidistant from the promontory of the sacrum and the superior portion of the pubis; at the inferior strait it is central; whilst the fenestrum covers every centre, without the blade encroaching upon any one part.

Traction being made upon the instrument, the line *FF* indicates the direction in which the power is applied at the pelvic entrance; whilst the line *EE* exhibits the direction in which the power is employed at the pelvic outlet. The instrument of necessity must follow the direction of the circle *BB*, which is the *natural line of motion*.

Fig. 2. Side view of male blade of the forceps, with its movable screw pivot *in situ*. *A*. Width of fenestrum one inch and three-eighths. *B*. Entire width of blade one inch and seven-eighths. *CCCC*. Rim of the blade, nearly three-eighths of an inch in width. *DD*. Length of fenestrum, in a straight line, four inches and three-quarters. *EE*. Perpendicular elevation, four inches. Elevation of the instrument directly beneath the lock, in consequence of the handle being set at an obtuse angle with the shank, three-fourths of an inch. *FF*. The sacral, or posterior curve, having a radius of about three inches and a quarter. *GG*. The pubic, or anterior curve, having a radius of about four inches. *HH*. The shank, one-quarter of an inch thick, and from the blade to the centre of the lock, three inches and a quarter long, and from the centre of the lock to extremity of handle seven inches; the whole length of instrument measured at the base line, sixteen inches.

Observe that both shanks take their origin from the superior rims of the blades, by which arrangement the greater curve of the instrument may be passed deeply into the pelvis, without making pressure upon the perineum. The narrow thick portion of the blade, directly at its junction with the shank, has a short twist, the inferior blade upward and the superior blade downward, by which means both blades are retained parallel.

Fig. 3. Front view of the handles, lock, and shanks, showing the overlapping of the latter, and their union with the blades; width one inch at the lock, tapering to the blade, where it measures less than three-eighths of an inch. Having disposed of the pelvic parts of the instrument, we come to the cranial.

Fig. 4. Represents a front view of the edges of the blades; and in order to represent plainly the measurements, the foreshortening required to make the picture, has not been observed. It must be remembered that, in the following dimensions of the spaces between the two blades, the handles are closed. *A*. The occipital portion of the cavity where the shanks diverge to form the blades and leave the cranial space. *B*. The mental space, or distance between the extremities of the blades is half an inch. From *A* to *B*, taken in a straight line, measures six inches and three-eighths. *CC*. The space from blade to blade, taken at the superior edges of the blades, two inches and a half at its widest part, which may be called its parietal width. *DD*. The facial part, two inches. *E*. Mental space, near the tips, one inch. The line *FF*, the *occipito-mental curve*, corresponding to the longest diameter of the child's head. And yet

another curve requires notice, viz., that in the sacro-pubic direction of the blades. It should meet a circle whose diameter is three inches and a half, which is the bi-parietal measurement as laid down by most writers; although it must be confessed rather small for the average size of crania of this region.

Fig. 5. Represents the parietal circumference. *AA*. On either side, the space over which the blades pass and embrace the head. It will readily be seen that the spaces *BB* add one-quarter of an inch on each side to the parietal space of the blade, gaining one-half inch, giving us a bi-parietal measurement of three inches, although but two and a half at the edges of the blades. Now, in consequence of the width of the fenestra, suppose the child's head pass through on each side one-quarter of an inch, we have our entire diameter of three inches and a half. So that, if the child's head were in accordance with this standard, it would be completely grasped without the possibility of undue pressure being exerted upon it.

PHILADELPHIA, April 24, 1853.

ART. VIII.—*Some Account of the Varioloid Disease which has recently prevailed, and is now prevailing (May 30, 1853), in the town of Gorham, Ontario County, New York.* By CHARLES A. LEE, M. D.

At the request of Dr. H. A. Potter, of Gorham, a highly respectable practitioner of that place, Prof. Bryan and myself accompanied him, May 29, to visit a number of patients, some of whom had recovered from, and some were still labouring under an eruptive disease, the nature of which had given rise to much dispute among the physicians of the place, some calling it *chickenpox* others *smallpox*.

We first visited those who had been first attacked, viz., John and George M'Comb. John M'C., aged 19, took the disease in Rochester, sickened soon after he returned home, and was first visited by Dr. Potter, on the 4th of March, 1853. He found him with high inflammatory symptoms, skin hot and florid, great thirst, and at times delirious at night, talking in his sleep, and muttering to himself, though rational when fully roused. He had severe pains in the head and back for the first three or four days. The eruption first appeared on the fourth day, in the form of small watery vesicles about the forehead. At first, small red points made their appearance, which became filled in the course of forty-eight hours with water, which gradually assumed a milky colour. In a few spots, large watery blebs appeared; at this time (May 28), the places where the scabs come off are of a livid or chocolate colour, smooth, a few pits on the face, but the signs of suppuration of the cellular texture very slight. *He had never had kine-pock; though formerly vaccinated, it did not take, and no scar on his arm is visible.* He kept the house about ten days, and was visited but five times by his physician.

Two other sons, George, aged 19, and William, aged 21, had the disease, but not so severely. *Neither had been vaccinated.* George was taken on the 21st of March, fifteen days after John, showing the period of incubation to be at least ten days. The symptoms in both cases were similar, sore-throat was present in all three. The eruption also began about the face and hands,

and appeared as early as the third or fourth day. The vesicles came out in successive crops, some scabbing and falling off, and others coming out at the same time. Dr. Potter says, he had no suspicion of its being smallpox, and called it *chicken-pox*. The marks where the scabs have fallen off are of a dusky, livid, or purplish hue; and George has a few pits on his nose and cheeks.

Seven others of the family had the disease, but all had been vaccinated. The disease in them was comparatively light, and they had few, if any, constitutional symptoms. They were scarcely prevented from attending to their ordinary duties. The whole of this family, ten in number, passed safely through the disease.

Mr. Bristol, aged 38, a neighbour who had been in the habit of visiting the above family while sick, was attacked, on the 14th of April, with severe headache, pain in the back, and chills, followed by high fever and delirium. *He had never been vaccinated.* The eruption appeared first on the face, hands, and feet, on the third or fourth day; it commenced in a vesicular form, or in a papular, speedily becoming vesicular, and became pustular in its progress. I cannot learn that the pustules were umbilicated in this case, though they were in some others. It came out here in successive crops, some of which appeared on the body after the eruption was at the height on the face, where it was confluent. It arrived at its height on the sixth day. The constitutional symptoms in this case ran high, delirium was almost a constant symptom. The fluid contained in the vesicles and pustules appeared to be lymph rather than pus, and dried into horny scabs, covering tubercular elevations of the skin, which, in a number of places, were followed by pits or depressions of that texture. Large, irregular-shaped, livid, smooth, or brown-coloured patches, now (May 29) cover more than half the surface of the extremities, as well as the forehead, the whole cuticle having been removed by exfoliation in the form of brawny scales, or larger masses and scabs. None of the smell peculiar to smallpox was present in this case. Mr. B. is still weak and unable to return to his work (May 29). This was called *horn*, or *swine pock*. *Four of the family had the disease; two children, and two adults; all but one had been vaccinated.* The others had the disease comparatively mild.

George Proudfit, aged 15, was taken, on the 23d of May, with a premonitory fever. *Was vaccinated two years ago*, and took well, was seized with sore-throat, swelling of face, difficulty of swallowing, and, on the 26th, crimson blotches appeared in irregular shaped patches on the extremities, particularly the legs and feet, exactly like *purpura hemorrhagica*. Some were of a bright and beautiful crimson red, others of a deep livid colour; the skin was not elevated, nor was there any lymph effused. The eruption in short was precisely like that described by Dr. Bell, of Philadelphia, as having occurred in some of the cases of *varioloid*, which fell under his observation in Philadelphia, in 1823-24. "The eruption," he says, "was at first of *maculæ* in abundant crops, of a crimson colour, with scarlet borders, especially copious about the back, shoulders, and hips. But it is worthy of observation that these *maculæ*, *smooth, and without elevation*, would, for the most part, disappear without leaving corresponding *papulæ*." These *maculæ* have not been an uncommon symptom in this epidemic. This case could also be distinctly traced to the M'Comb family.

Peter F. Fero, aged 43, farmer, was taken, on the 19th of May, with severe pain in the head and back, fever, thirst, &c.; and, on the fourth day, an eruption appeared on the forehead, in the form of small watery vesicles, which was filled with milky serum. Successive crops made their appearance and scabbed off, leaving a hard base, of a brown, red, or livid colour; about thirty pocks

appeared on the face, and about as many on the body; was confined to the house but a few days. This patient took the disease, it was supposed, of Mr. Bristol. *Had been vaccinated.*

Peter W. Pomeroy, aged 36, farmer, and wife, were taken, on the 19th of May, with chills, followed by fever, pain in the head, back, sore-throat, &c. The eruption appeared on the 22d. The pock had the appearance of varioloid, conical or conoidal, vesicles of ordinary size filled with milky fluid, which, drying and falling off, leave an elevated and hardened base; came out in successive crops. Have kept about most of the time, appetite good, and strength not much affected. Took the disease of Mr. Pulver, who died of it, and who took it of the M'Comb family. *Both had been vaccinated when young.*

William Story, aged 78. We next visited Mr. Story, who *had not been vaccinated*, so far as we could learn. He had been exposed to the disease like all the others; was attacked, on the 23d of May, with sore-throat, high fever, and severe pains in the head and back; at times delirious. The eruption began to come out on the 26th, in the form of a red confluent rash on the face, and distinct red pimples on other parts of the body, exactly resembling *varicella*. The body was thickly covered by it. The pimples were acuminated and filled with a watery fluid. The tonsils were swollen (May 29) and aphthous, the tongue covered with a whitish fur. The case has every appearance of resulting in a confluent form of eruptive disease.

Mrs. Potter, aged 26, was attacked on the 17th of May. Had been freely exposed, was *never vaccinated*. The constitutional disturbance was great, and the symptoms the same as in the other cases. The eruption began to appear on the 20th, on the face and hands; at this time the pock are thickly dispersed over the whole body and limbs, and confluent on the face, all of which are umbilicated. Took it of Mr. Pulver, who died some two weeks previous.

Edward Bayles, aged 49, *never vaccinated*, exposed to the disease, was attacked, on the 19th of May, with chills, headache, sore-throat, nausea, and vomiting, delirious at times. The eruption made its appearance on the 22d. It is now (29th) confluent on the face, which is greatly swollen; eyes nearly closed, pock thickly scattered all over the body and limbs, large, well filled and *all umbilicated*; the peculiar briny smell of smallpox very strong in the room; a well-marked case of *malignant confluent smallpox*.

John Pulver, aged 19. His father died of the disease some ten days previously. *Had been vaccinated*. Was attacked, about two weeks after his father, with chills, headache, sore-throat, but not so severe as to confine him to the house. The eruption began to make its appearance on the fourth day after the attack. But few pocks came out, more on the face and hands than elsewhere, of which the scars are quite distinct. The pock resembled those generally met with in *varioid cases*.

Charlotte Pulver, aged 17, sister of the above. She was the first in the family who was attacked with it. Took it, she thinks, of John M'Comb, the first case described, and gave it to her father, who died of it. *He had been vaccinated*, and had but slight eruption and little constitutional disturbance, no pitting, but skin brown and livid where the scabs came off.

May 30. Professor Bryan and myself visited the Pitcher family, in Gorham. The first case that occurred in the family was Eliza Pitcher, aged 19; *had never been vaccinated*. Caught it of Miss Pulver, she says; twelve days after exposure, was seized with severe chills, pain in head and back, sore-throat, &c., with delirium at night. Was attacked on the 4th of May; the eruption appeared three days afterwards, coming out thick on the face like an efflorescence, and, on the limbs, large watery blisters; some filled with a sanguinolent serum, which dried away, causing a copious desquamation of the skin,

which has come off in furfuraceous scabs in large quantities. Some of these watery blebs were more than an inch in diameter. The face was covered with distinct pock, so thick as almost to be confluent. *Small abscesses*, now (30th of May) exist on different parts of the body, and she is still too weak to sit up. The face is thickly speckled and spotted, of a livid or dusky brown hue, though not deeply pitted. She had pustules also in her mouth and throat, and on her tongue.

Mr. Pitcher, aged 46, and his wife, were next attacked, about two weeks after the daughter. Mr. P. was seized with vomiting, headache, and pains in back, sore-throat, &c. On the fourth day the eruption appeared on the face and hands. Some two hundred pocks, perhaps, altogether appeared on different parts of the body; at first, filled with watery fluid, which soon became milky and sero-purulent. Some were of a circular form, others of an irregular shape. They came out in successive crops, a majority of the pustules were not more than one-eighth of an inch in-diameter. The scabs, after falling off, left an elevated hardened base, of a red or brown colour, no excavations or pits visible.

Mrs. Pitcher was attacked at about the same time with her husband. Both had been *vaccinated thirty-five years ago*, by Dr. Dimmick. The constitutional symptoms were the same. The eruption appeared in two or three days after she began to complain, in the form of large, irregular-shaped, watery blotches, which soon changed to a yellowish lymph, or sero-purulent; many of the pustules were conoidal, some umbilicated, others flat, and a half an inch or more in diameter. On puncturing the pustules the contents were, in many instances, speedily discharged, flowing out freely; while, in others, a thick matter could be squeezed out slowly. The scabs, after falling off, generally left an elevated, hardened base, of a red or dusky hue. The eruption was pretty full on the face, hands, and feet, and comparatively few on the body. Among the larger pock were interspersed many fixed pimples, exactly resembling *varicella*. They appeared, also, in successive crops. Both kept about most of the time, and the appetite continued good, which was a common symptom in nearly all the cases.

Horace M. Pitcher, and William C. Pitcher, ages 17 and 14, sons of the above, were attacked about the same time as their parents. *Both had been vaccinated when young*. The symptoms were similar to the above, but so mild that they were not confined to the house. They had, like all the rest, sore-throat, and pains in the head and back. *They had no eruption*.

Laura Jane Pitcher, aged 5 years, was seized about the same time as the others. The symptoms, at first, were supposed to be those of worms. The eruption began on the third day with an efflorescence, or small red points, like flea-bites, about the face, while the hands were covered with a confluent rash. *Has never been vaccinated*. The pustules gradually filled with water and thin yellow matter, with hard and elevated bases, and on the face became nearly confluent. The face was considerably swollen, and the eyes closed for two or three days. No sore-throat complained of, though probably affected. The feet and legs were thickly covered with small variceloid pimples, as well as larger pock. Both came out in successive crops.

Mrs. Walters, wife of Dr. Walters, aged 30, *has never been vaccinated*. Supposed to have caught the disease *from her husband's carrying the infection in his clothes*. Mr. Pitcher's family, whom he attended, lived about half a mile distant. Mrs. W. was taken on the 22d of May, and the eruption appeared on the 25th. She was seven months advanced in pregnancy, and in fine health previously. Abortion took place on the 24th, the second or third day after the constitutional symptoms commenced, which ran rather high,

except the fever, and the same as already mentioned. The eruption began in the form of a fine efflorescence over the face, hands, and body. She was vaccinated on the 21st of May, the day before she was attacked, and now (30th of May) there are from thirty to forty vesicles on the arm closely surrounding the main kine-pock, which is umbilicated, and presents all the characters of genuine kine-pox. Her face, which is much swollen, is thickly studded with pustules, bearing all the appearance of smallpox; some of which begin to dry at the apex. They are from one-eighth to one-fourth of an inch in diameter, while some are mere points filled with a yellowish serum.

Margaret Walters, daughter of the above, aged 5 years, *never vaccinated* till the 21st of May, began to sicken on the 24th, and the eruption appeared on the 26th, in the form of a fine efflorescence, confluent on the face; delirious at night, and high constitutional derangement. The eruption has the appearance at present (May 30) of *varicella*; very full on the face and hands, less on body, and finer. There is no pus in the vesicles as yet, nor are they umbilicated. They have more resemblance to horn-pock, shining; and semi-transparent, and confluent on the face. They seem to be flattening, but no dry scabs as yet. Fever ran high on the 23d, 24th, and 25th. She bids fair to recover. The disease has evidently been modified by the concurrent and coexistent kine-pox, as it has probably in the mother also.

These are all the cases which I have visited, and they probably include all, with the exception of two or three, which have occurred. They appear to establish the following inferences:—

1. That the smallpox virus will give rise to eruptions of a very diversified character; the modifications being produced by previous vaccination; the period which has elapsed since vaccination was performed; the age, general health, habits, idiosyncrasies of the patient, &c.

2. The eruption may have all the specific characters (including *water-pock* and *swine-pock*) of variocella, smallpox, varioloid, pemphigus, purpura, and probably other forms of cutaneous disease.

3. In general, those persons who have been vaccinated will have the lighter forms (as *variolodes* of Gregory, and *varioloid varicella*), and in few, if any instances, does it prove fatal.

4. As a general rule, the disease will assume a milder form in proportion to the recency of the vaccination.

5. The eruption produced by smallpox virus may occur in a vesicular form, or in a papular, speedily becoming vesicular; and, lastly, may become distinctly pustular, the pustules sometimes with and sometimes without a central depression, or may assume the form of *purpura*.

6. The eruption may be irregular in size and form, as well as in the place of its first appearance, and may occupy merely the surface of the skin, or penetrate the true skin, leaving pits. It may come out in successive crops on the body, after it has reached its height on the face, which may be on the 4th day, or protracted to the 6th or 7th day, or even later.

7. The fluid contained in the vesicles may be water or lymph, sero-purulent or purulent; sanguinolent or sanguineous (*purpura*); and the pock may dry into horny scabs covering tubercular elevations of the skin, or scale off

and leave the skin perfectly smooth, though of a dusky or livid hue, or scarred and pitted.

8. At the decline of the eruption, vesications on an inflamed basis, to a greater or less extent, may appear, *filled with lymph or air*, and small abscesses may form in the subcutaneous cellular texture.

9. The eruption generally has none of the smell peculiar to smallpox, this being confined, for the most part, to the confluent cases.

10. The disease may be so severe as to prove fatal, and so slight as not to be attended with eruptions, and but slight if any constitutional disturbance (in the vaccinated).

11. The *varioloid* form cannot be distinguished from pure *variola* by the character of the eruption; for, as in the latter disease, crops of vesicles may appear in succession for several days, the first beginning to shrivel while new ones are forming; the vesicles that remain after the third day becoming slightly opaque, and like pearls; taking on inflammation by the irritation of friction or scratching, so as to be collected into pustules; the scabs small and gummy, drying quickly, and crumbling off, leaving shallow cicatrices, and unattended with little if any constitutional disturbance.

12. These conclusions do not militate against the doctrine that there is a separate disease, *chicken-pox* (*varicella lymphatica*), which springs from a specific contagion, or poison, producing a vesicular eruption, running a definite course; having no tendency generally, when undisturbed, to suppuration, occurring ordinarily but once, affording no protection against smallpox, as smallpox affords no protection against it.

13. The above cases, therefore, do not prove the doctrine first promulgated by Sauvages, and advocated, in 1820, by Prof. Thomson, of Edinburgh, that smallpox and varicella are *the same disease*, produced by the same specific poison, any more than they prove that pemphigus, purpura, &c., are identical with smallpox, and always produced by variolous poison, because they occur under the same circumstances.

14. Chicken-pox often occurs epidemically in various parts of our country, unmixed with varioloid cases, and not traceable to variolous infection, which proves the above proposition.

15. Lastly, when practitioners meet with any eruption, which is at all equivocal, they should use the same precautionary measures for preventing the extension of the disease, as if they were certain it was modified smallpox.

These conclusions may not all appear to be sustained by the history of the preceding cases; they are, however, as I believe, legitimate inferences from what I have observed in this, and find recorded of other epidemics of a similar kind. The doctrine that smallpox and chicken-pox originate in one and the same contagion, and that *varicella* is, indeed, what its name imports, a mild and modified form of *variola*, originated, or, at least, was distinctly avowed by Sauvages, and found an able supporter in Prof. Thomson, of Edinburgh. Dr. Gregory, also, in order to solve the difficulties, maintains that

there are two diseases, distinct from each other in their character and origin, both of which have been called *varicella*; one he calls the *varicella lymphatica*, the true, or genuine *varicella*, which is often attended with slight fever, and followed by an eruption which is *vesicular* from the earliest period; the vesicles, at first perfectly transparent, and covered by a thin pellicle, or cuticle, like that raised by a scald or blister, discharging pure lymph, when punctured, and exhibiting no central depression, nor cellated structure. An irregular circle of inflammation surrounds each vesicle on the second and third days of the eruption. The disease is attended by much itching, which leads patients to rub off the tops of the vesicles, thus destroying the characteristics of the disease at an early period. On the fourth day the vesicle becomes opaque, if left entire, and the disease is with difficulty distinguished from smallpox by the eye alone. The vesicles are usually distinct, but sometimes confluent, the vesicles being covered on the fifth day with slight, scaly, yellowish, and irregular crusts, presenting a flat surface; but, in a few instances, slight pits are left behind. The eruption, too, comes out in successive crops; which also takes place in modified smallpox.

The distinguishing characters of *varicella variolodes* of Gregory are, that the eruption, instead of being vesicular, exhibits in its early stages the appearance of indurated basis, with a central depression, in many cases, and a firm basis, if the contents are discharged on the third day; the crusts which succeed are compact, defined, of a clear horny smoothness, and elevated. The *virus* producing it is always that of variola. The former variety is rarely, if ever, met with in adults; but prevails among children, propagated by a specific contagion, but not by inoculation; and may affect an individual more than once during life. The latter is what I have called one of the modified forms of smallpox, of which I saw several well-marked cases in Gorham. It amounts to the same thing, whether we regard it in this light, or view it as a variety of *varicella* produced by smallpox virus. I am satisfied that there are many varieties of smallpox, from the malignant, confluent forms, passing by insensible gradations from the mildest smallpox into *varioloid*, and *varicella*, *pemphigus*, and *purpura*; between which no distinct line can be drawn. And so with regard to the fever, it may vary quite as much, both in duration and degree, from no fever at all, to a continuance of three days or more. Even the mildest form of chicken-pox, may be attended by a considerable fever of from one to three days' continuance. The appearance of successive crops of vesicles sometimes also characterizes smallpox,¹ which is also common in the varioloid and chicken-pox. As to the period of incubation of the *varicella lymphatica*, I cannot pronounce with confidence, but it is probably somewhat shorter than that of the varioloid variety, as remarked by Gregory. As to the falling down of the vesicles on letting out the inclosed fluid, this takes place equally in smallpox, varioloid, and varicella; and the fact that all the varieties occur in the same skin, without fever, stopping at the pellucid

¹ Gregory's Practice, vol. i. p. 219, Am. Ed.

state, and never maturing nor forming an areola or slough, shows that the diseases are similar; while the greater dimensions of the vesicle at the summit than at the base; the want of depression in the centre of the vesicle, and the want of hardness and prominence in the skin at the base of the pock, are common both to varioloid and smallpox. The tubercular elevations which succeed to vesicles and pustules, occur most frequently in natural smallpox, it is true, but are sometimes present in pustules of the chicken-pox, while the indented character of the vesicle may be found at times in all the varieties. In short, the proposed peculiarities of each are found in all the others; and hence, I conclude, that all are modified forms of *variola*.

P. S. I beg to append to this communication the following letter, from Dr. Duncombe, of Canada West, a member of the class of Geneva College, at its present session, as it has a bearing on the present subject.

PROFESSOR LEE—

Dear Sir: Late in the autumn of 1851, a family, consisting of six persons, emigrated from Scotland to St. Thomas, C. W. The smallpox was prevailing in the vessel in which they came, and one of their number perished with the disease during their passage; soon after their arrival, the remainder of the family were attacked with the disease, and all recovered except one; this was the true form of *variola*. Early in the spring, about five months subsequent, Mr. C——, the head of the family, employed a tailor to mend his coat, which must have contained the virus; about ten days after this the tailor was seized with *variola*, of the confluent variety; about four years previously he had been vaccinated, which worked well; consequently, I was induced to consider this a case of varioloid. This patient died on the tenth day after the attack. One of the nurses conveyed the disease to his own family (probably in his clothes), four of whom were soon after taken ill, and two had symptoms of distinct *variola* (quite mild), while the disease of the other two resembled *varicella* in a marked degree, the pustules coming out irregularly, and declining about the fifth or sixth day, and the pustules were not umbilicated; while, in the other two, the pustules all made their appearance on the same day, and were not mature until the eighth day; besides, the pustules were nearly all of them umbilicated.

There were three or four other persons attacked, who had every appearance of the milder form of *variola*; besides, about fifteen persons who had *varicella*, and in my estimation no other disease.

CHARLES S. DUNCOMBE, M. D.

June 1, 1853.

ART. IX.—*Variola in the Fœtus*. By WM. T. TAYLOR, M. D.

On the 8th of October, 1852, I was requested to visit Mrs. A. H., twenty-six years of age, and the mother of one child, then about three years old.

On reaching the house I found she had miscarried, being in the fifth month of pregnancy. The pains having entirely ceased, I gave half an ounce of the wine of ergot, which soon caused the placenta to be expelled.

Upon examining the fœtus, I was greatly astonished, to find it completely covered with discrete *variola*, in the pustular stage; apparently about the eighth day of the disease. Some of the pocks were well filled, and rounded

on the top, whilst others were depressed in the centre. The mother had been vaccinated when a child; she never had had smallpox, nor even seen a case of the disease; but was always fearful of taking the contagion. Referring to a case of confluent variola, which I had attended, a few doors from her residence during the early part of September, she remarked: "I would never pass the house, but always crossed to the other side of the street."

A few weeks previous to her miscarriage, having been seized with a chill, which was followed by headache, sickness of stomach, and a severe pain in the small of the back, she was impressed with the idea that it was smallpox. This occurred on Friday, the 24th of September. Two days after, an eruption resembling prickly heat appeared on her face and arms. She drank a tea made of ginger and sweet marjoram, "to drive out the disease," and feeling somewhat better, did not seek medical advice. On Monday, September 27, the eruption began to disappear, and on the following day it was entirely gone; but she did not feel perfectly well, for there were occasionally symptoms, which she described as flashes of heat, and cold chills, running all over her, with a dull, aching pain through the stomach, and loss of appetite. These symptoms continued until two days before her abortion, when she felt a weight in the pelvis, attended with "bearing-down pains," which continued until she parted with the fœtus.

There are, on record, instances of women having aborted, when infected with the smallpox, where there was no trace of the disease on the body of the fœtus; and I have in my possession, a fœtus of five months, which was parted with by a negress, at the City Hospital on Bush-Hill, on the 12th of July, 1849, that does not exhibit the slightest appearance of the disease; but yet the mother died of smallpox contagion on the following day—the ninth day of the eruption.

I find in *Watson's Practice* these remarks:—

"Infection of the fœtus in utero is very rare; yet, unquestionably, it sometimes happens, and the circumstances under which it has been noticed are various, and interesting. In one instance, related by Mr. Flinders, the disorder was eight or ten days later in the fœtus than in the mother. A woman, near her full time, took smallpox. The pustules were mature about the 10th or 11th of June. On the eighteenth, she gave birth to a full-grown boy, upon whose face and body there were many pustules, discrete, and nearly ripe. The child died the same night. It is a very curious fact that the fœtus has caught the disorder, doubtless through the medium of the mother, although she, having had it previously, was unaffected by the contagion. Dr. Mead relates that a certain woman, who had formerly had the smallpox, and was now near her reckoning, attended her husband in this distemper. She went her full time, and was delivered of a dead child. It may be needless to add that she did not catch it on this occasion; but the dead body of the infant was a horrid sight, being covered all over with pustules. Dr. Jenner gives an account of an infant which, upon the fifth day of its age, became indisposed, and on the seventh exhibited the eruption of smallpox; so that the contagion must have been communicated to it while in the womb. A few days before her confinement, the mother of this child had seen, in the street, a person covered

with smallpox pustules, the smell and sight of whose body had sensibly affected her. Sir William Watson relates an instance in which the scars left by the pustules were visible upon an infant at its birth. This child was afterwards inoculated without taking the disease. Its mother, who had formerly had it, nursed, when far advanced in pregnancy, a servant ill of smallpox. Dr. Pearson met with a similar example. Mary Spooner was inoculated by him in her sixth month of utero-gestation, and had the disease severely. Her child was twice inoculated with smallpox matter, but without effect." P. 980.

In the present instance, however, the mother had been vaccinated when a child; yet she took the contagion, and had all the premonitory symptoms. But when the eruption came out, it almost immediately disappeared; but the fetus was covered with a well-marked variolous eruption.

I will mention another case which has some bearing on this subject:—

A young woman had the varioloid whilst residing with her sister-in-law. The latter was in the sixth month of utero-gestation, and I vaccinated her. The vaccine disease took beautifully. At the full term she was delivered, but when her child was two weeks old, and before she had left her chamber, a brother-in-law was taken sick, in the same house, with the confluent smallpox. Feeling some anxiety in regard to the infant, I vaccinated it; but the vaccination was not effectual. Again I inserted the virus in its arm, with great care, and again, after two or three days interval, but my efforts were unavailing, the pock would not develop itself. All the circumstances seemed favourable for the production of a healthy pock. The vaccine virus was changed each time; the air of the house was fully impregnated with the variolous contagion; the infected person occupied an adjoining room, and the nurse had free access to the chamber where the infant was.

The patient recovered after a confinement of three weeks to the house. The family, consisting of five or six persons, being protected by recent vaccinations, escaped the disease, nor did the infant become infected. Could the vaccination of its mother during pregnancy have protected her child, as inoculation is reported to have done in Dr. Pearson's case before referred to?

PHILADELPHIA, May, 1853.

ART. X.—*Excision of the Inferior Maxillary Bone for Caries.* By W. G. BULLOCK, M. D., of Savannah, Geo.

TOWARDS the end of July, 1852, John Turner, an Irishman, entered the Savannah Hospital, and applied to me for relief under the following circumstances.

The right side of the lower jaw, from the symphysis to the neighbourhood of the articulation, was diseased, and so extensively enlarged from infiltration of the soft parts as to produce great swelling and deformity of the face, and to impede much the movements of mastication. It also rendered him an object

of disgust to himself and others, in consequence of the sanious and excessively fetid discharge which flowed abundantly from several fistulous orifices opening internally in the mouth, and externally on the cheek. A probe introduced into these fistulæ, discovered the bone not only denuded, but so perforated and broken up, that the instrument could readily be passed into the mouth in various directions.

He was rather obtuse in intellect, and therefore I could not obtain any very satisfactory information from him of the nature or history of the disease, except that he stated, to use his own language, "he got it hurted some year or two ago."

From the nature of the case, it was evident that entire removal of the diseased portion of bone was the only remedy, and several of my professional friends who saw the case with me, were decided in their opinion as to the necessity of such an operation, other modes of treatment offering no hope or prospect of cure in our opinion.

An operation being determined upon, with the assistance of Drs. Kollock, Howard, and Warner, after administering a mixture of chloroform and ether, and bringing the patient completely under the anæsthetic influence of those agents, I proceeded to perform the operation in the following manner:—

My first incision was made a line or two to the left of the middle of the lower lip, by transfixing it with the knife directed obliquely upwards and backwards, then reversing the cutting edge of the knife, and continuing the incision down to the lower margin of the jaw. From the termination of that incision I boldly drew the scalpel along the entire inferior margin of the bone as well as it could be defined in the swollen state of the parts, to the angle of the jaw, turning up behind that point, and extending another incision at right angles or so with that, to a point nearly opposite the articulation. The formidable flap made by these incisions was next dissected up, and reflected upon the upper part of the face, so as to expose fully the diseased portion of bone. The jaw was then sawed through with the chain saw immediately to the left side of the symphysis. Seizing the end thus sawed through, the section of bone was then carefully separated from its internal soft attachments, by drawing the scalpel along its internal surface with the edge close upon the bone. Considerable difficulty was experienced in detaching the soft parts about the angle of the jaw, and the advantage to be derived in using it as a lever was lost by its giving way and separating from the ramus and processes above. These had to be seized singly with a forceps, and separated by drawing them out and relieving them from their attachments above with a knife passed carefully under the arch of the malar bone. After excising portions of the diseased soft parts connected with the bone, tying the vessels cut, of which there was but one of importance, viz., the facial, and suppressing the hemorrhage, otherwise inconsiderable in this case, the flap was brought down, and the edges of the wound were accurately adjusted by means of a few hair-lip pins and adhesive plaster, and thus kept in complete apposition. Water-dressing was applied, and such other treatment adopted as circumstances required to facilitate union and healing of the wound.

He is now, at the time of writing this description, a month after the operation, going about, cheerful, and almost entirely well—union so completely established as to leave little external deformity, and exhibiting but slight traces of so extensive an operation.

REVIEW.

ART. XI.—*A System of Operative Surgery, based upon the practice of Surgeons in the United States; and comprising a Bibliographical Index and Historical Record of many of their Operations during a period of two hundred years.* By HENRY H. SMITH, M. D., Surgeon to the St Joseph's Hospital; Assistant Lecturer on Demonstrative Surgery in the University of Pennsylvania; Lecturer on the Principles and Practice of Surgery in the Philadelphia Medical Institute, &c. Illustrated by numerous steel plates. Philadelphia, Lippincott, Grambo, & Co., 1852: 8vo. pp. 698.

OUR readers will perhaps remember that, in one of the numbers of this *Journal* of the last year, we noticed the publication of the first two parts of Dr. Smith's volume. We now ask their attention to the work in its completed state.

The book is a very handsome one, typographically, and is exceedingly creditable to the enterprising publishers. The text is elucidated by eighty steel plates, comprising a large number of figures, which are beautifully executed; superiorly, we think, to any that have hitherto been published in this country. Many of the drawings are original, made expressly for this book; most of them are copies, however, from various sources, chiefly from Bernard and Huet, Bourgery and Jacob; several are taken from Auvert's great work. They are small, but possess so much clearness, and definition, and precision of outline as to be of decided assistance to the student of operative surgery. The volume may be had with the plates coloured or plain; the latter, of course, at less expense than the former.

We cannot so well set before our readers the author's aim and intentions in the preparation of the book, as by quoting one or two paragraphs from his preface:—

"In many portions of the work, the descriptions furnished will be found to be given in as condensed a form as seemed compatible with clearness, and have been thus presented in order to prevent the volume becoming too cumbersome for constant use. In addition to which, the author has not desired to go over ground which has so recently been well displayed by writers both in Europe and this country. Many details of history, pathology, physiology, and surgical proceedings which are essential to a complete treatise upon the subject, have, therefore, been designedly omitted in this as not coming within the scope of its plan.

"Although the idea of an instructor cannot be claimed as a novel one, having, in the hands of Messrs. Malgaigne and Fergusson, been most happily illustrated, there has yet been no work issued by the press which has presented the American practitioner with a comprehensive view of the opinions, operative methods, and instruments of those of his countrymen who have given to American surgery a character of its own.

"At present, little more than two hundred years have elapsed since the first surgeon stepped on our shores; yet, during that time, many acts have been performed that will favourably compare with the brightest achievements of the surgeons of Europe. To record these points and save them from unmerited oblivion, has been a pleasant duty in connection with the composition of the volume.

"In its formation, the author is under many obligations to various sources, which he hopes he has suitably acknowledged. Basing his description of any operation chiefly on the views of his own countrymen, he has yet felt bound to display along with them the opinions of such European authorities as are universally received as sound; and, to facilitate a judgment on the part of those whose knowledge might not be sufficient for the formation of an opinion of the value of the different methods referred to, he has appended to the account an estimate of their advantages. This estimate, he wishes it to be distinctly understood, is founded solely upon his own opinion, based upon the experience acquired during a devotion of seventeen years, under auspicious circumstances, to the study and practice of a favourite branch of his profession."

If we understand the design of Dr. Smith, it was that his book should be a mirror in which one might see reflected the history and the present condition of "*American Surgery*."

Have we in this country any system or practice of surgery which really deserves to be called *par excellence American*? Did this branch of science spring up from our soil, as the gay Athenians are fabled to have done, like grasshoppers, from the sod of Attica? Was it not, on the contrary, of exotic origin, as was every other element of the civilization which exists among us at the present time? The plant, has, indeed, taken deep and strong root in our virgin soil, and yields abundantly its good fruit; but the variety and quality of its products are owing in a good measure, we must not forget to acknowledge, to the constant engrafting upon it of the productions of other lands.

Our earliest surgeons came from England, and many of their immediate successors were educated in that country. Since then our young men have been accustomed to study in France, and latterly in Germany. And, probably, our younger surgeons are more imbued with French ideas on surgery than with any other. However, we are essentially Saxon in our mental constitution; and we accordingly find more to attract us in the accuracy, fidelity, wise caution, and practicability of our Saxon relatives, particularly of the British Isles, than in the productions of their more showy and inventive neighbours on the opposite shore of the Channel. So that, in spite of earlier prejudices, our surgeons, as they grow older, gradually lean to the opinions and practices of British surgeons as a basis.

American Surgery, therefore, is a very composite structure. It has been built up partly with materials quarried and hewn by diligent hands at home, partly with similar materials prepared by foreign labourers; and the building must be finished in the same way. Hence any exposition of the history and present condition of American surgery should embrace not only all that we have ourselves done for the advancement and perfection of surgery; but, also, all of value that has been contributed to it abroad. Such, we have no doubt, was the view of the subject entertained by Dr. Smith; and he has accordingly enriched his pages from a variety of foreign sources, and has thereby rendered them infinitely more valuable than they could have been made had he confined himself to the description of what was purely of domestic growth. How far he has succeeded in his endeavours we shall now attempt to show.

Dr. Smith prefaces his book by a brief history of surgery, or rather he cites the most important facts and occurrences with reference to the progress of surgical knowledge from the earliest times, in a connected and continuous succession. And having brought his enumeration to the period at which our own history commenced, he presents us with a "record of some of the principal facts of interest connected with the origin and progress of medicine and

surgery in the United States, arranged to facilitate reference." We need not say that this section possesses much to interest American physicians.

Next, we have a "Bibliographical Index of American writers, on subjects connected with Operative Surgery, from the year 1783 to 1850 inclusive, being a period of sixty-seven years." This list is arranged chronologically, and embraces original works published in this country, translations and reprints, medical journals, papers and essays originally published in the periodicals; the latter are classified according to the subjects of which they treat, and with their titles are also furnished the dates of their respective publication, and the journal in which they may be found. It is not to be expected that such a list should be perfect; omissions could scarcely fail to occur; but we think that it will be found remarkably complete.

Another list furnishes us with the names of American surgeons, arranged alphabetically, with the titles of their papers as quoted in the "Bibliographical Index," just alluded to.

Before entering upon the description of special operations, Dr. Smith devotes several pages to important preliminary matters. These constitute the *first part* of the book. They are considered in distinct chapters and sections under appropriate headings. They include the general duties of an operator preparatory to an operation, and during and subsequent to its performance; duties to the patient; the selection and functions of the assistants; the preparation of, and modes of using the instruments in the elementary and other operations; the means of arresting hemorrhage; the dressings to be applied, &c. These are all matters of great moment, and they have received as much of the author's attention as his space would allow; and wherever illustrations were required they have been profusely introduced, and are of the best kind.

Dr. Smith advocates, and with propriety, the employment of *Anæsthetics* in operations; the particular preparation which he prefers consists of a mixture of one part of chloroform with five of pure ether; and he administers it upon a sponge or handkerchief placed in a truncated tin cone, the summit of which is applied to the mouth of the patient. He has not cautioned his readers sufficiently against the dangers produced by the inhalation of anæsthetics, nor does he at all point out the means by which they may be best counteracted or overcome; an omission, we conceive, of considerable importance, considered in connection with the fact that these agents are now so commonly employed, and that he himself so warmly advises their administration.

The chapter on *Dressings* is less full than we could wish, being made up of hints and suggestions rather than of instructions. The *Sutures* enumerated are those only which are in common use—the interrupted, twisted, and quilled; and these are clearly described. We see no mention made of the spring sutures of Vidal, the platinum sutures of Mr. Morgan, the caoutchouc threads of Mr. Nunneley, the subcutaneous suture of Dieffenbach, and the twisted pin suture of the same distinguished operator. These, and others which might be enumerated, are, it may be, useless refinements; but, employed as they are by men of eminence in their profession, they might very properly find a place in the *Armamentarium* of Dr. Smith. We must, however, do him the justice to say that he considers these matters as belonging rather to Minor Surgery.

Part the second of the treatise before us commences the discussion of special operations, by introducing to our notice those performed upon the *Head and Face*. The descriptions of these are preceded by a sketch of the surgical anatomy of these parts.

The operations practised upon the Head are performed either upon the scalp or upon the bones of the cranium. In the first group, Dr. Smith describes

those resorted to in the treatment of *encysted tumours*; *nævi*, or vascular tumours; cephal hæmatoma, and the mode of dividing the supra-orbital nerve. In the second, he enumerates operations for caries and necrosis of the cranium; trephining the cranium; puncturing the head for hydrocephalus; and the mode of removal of fungoid tumours of the dura mater.

For the removal of the common encysted tumours of the scalp, nothing more is usually needed than a simple or elliptical incision, and the subsequent turning out of the tumour, or the dissecting out of the sac. This is, of course, very properly described; but the after-dressing which the author inculcates is decidedly objectionable. He advises to

"Cleanse the part thoroughly; see that no portion of the shining sac remains at the bottom of the wound, and tie or twist a few hairs together over the wound in order to close it; or, if the incision has been free, apply a compress and bandage. The hemorrhage seldom requires attention, or may be easily arrested by pressure." (P. 71.)

Nothing is more slovenly in appearance than a lock of hair saturated with blood or pus, in contact with a wound of the scalp; and it is liable also to excite inflammation by its irritating and offensive presence. We have been taught to believe that the hair should, as a preliminary step, be removed from the scalp in the vicinity of the part to be operated upon, and that the edges of the wound should be carefully approximated by adhesive plaster. We dissent, in like manner, from his recommendation to arrest the hemorrhage from such operations by *pressure*. If the bleeding come from an artery which can be felt pulsating at some little distance from the margin of the incision, and if it cease when this vessel is compressed, then we would not object to the precept of our author; but we would limit the pressure to the artery directly, not permitting the edges of the wound to be affected thereby. If the compression could not be so limited, we would not resort to it at all, if we could pass a ligature around the bleeding vessel or vessels. We have never seen a ligature, applied to an artery of the scalp, produce any unpleasant effect, and we have always found that pressure made upon a wound to arrest hemorrhage interferes decidedly with reparation, and endangers, if it does not actually induce, sloughing.

Dr. Smith prefaces his account of the operations to be practised for *erectile tumours* by a few remarks concerning their *pathology*. In these, he commits the serious error of confounding the *nævus maternus*, or *mother's mark*, with the true *aneurism by anastomosis* of Mr. John Bell; and the text is so worded that the reader must suppose that Mr. Bell himself so confounded them. He says:—

"In most instances, these tumours only involve the integuments, and are supplied by one or two vessels, which, entering near the centre of the structure, have no direct vascular connection with the skin of the adjacent parts. Most frequently, *nævi* will be found of small size, though they occasionally attain the dimensions of a small orange. Being composed almost entirely of enlarged capillaries, the hemorrhage from them will be free when the diseased structure is incised, though it is generally amenable to pressure." (P. 71.)

The class of *erectile tumours* ought not to be thus confounded, not only because they present very wide diversities of structure, but because the treatment demanded by the varieties is equally and necessarily different. One consists in a uniform and permanent dilatation of the capillaries of the true skin, producing considerable discoloration, with but little elevation of the surface. This is a very common form of *nævus maternus*, or *mother's mark*; it constitutes a deformity, and nothing more, in most cases; if it bleed, from puncture,

ture or abrasion, slight pressure will generally arrest the hemorrhage; it requires no treatment, because it is not usually a source of any danger. Another is constituted chiefly of permanently dilated veins, provided with arterial feeders; it is seated beneath the skin in the areolar tissue, and is elevated above the surface, in the form of a doughy elastic tumour of a livid hue, from the predominance of veins in its structure; if these vessels be opened, they bleed very freely, so as sometimes to endanger life. A third variety of erectile tumour is different from both; it is formed of dilated vessels, arteries, and veins, communicating directly with each other, sometimes one predominating, sometimes the other; the returning veins are large and tortuous, in order to convey away the torrent of blood supplied by capacious and strongly pulsating arteries; the mass constitutes a more or less protuberant swelling above the skin or mucous membrane, according to its situation, is red or livid from turgescence of blood, is always full, and frequently pulsative, presenting even the aneurismal thrill and murmur; if such a tumour as this be cut into, the gush of blood is frightful, requiring for its arrest all the promptitude and energy of an experienced and self-possessed surgeon.

For the treatment of this class of tumours, Dr. Smith enumerates a variety of methods: by *exciting inflammation* through vaccination, or by the insertion of needles heated to a white heat, or threads soaked in a saturated solution of caustic potassa, or a seton; by *producing strangulation* of the mass, by means of ligatures drawn through it and then tied tightly, the skin at its base having been previously incised or not, or by means of threads twisted around needles thrust through it. He also speaks of the plan pursued by Dr. Brainard, of Chicago, in the treatment of small *nævi materni*—the painting of their surface with collodion. He describes, too, the treatment by excision. The methods spoken of are, therefore, sufficiently numerous and varied to suit all cases; and the author's observations on the value of the different proceedings will materially assist the reader in determining which of them he should resort to in any given instance.

Several pages are devoted to the employment of the Trephine in injuries of the head. The directions concerning the mode of using this instrument are such as are ordinarily met with. The author concludes his remarks upon this topic, by presenting a numerical statement of cases of compound fracture of the skull treated with and without the trephine. He says:—

"Out of 77 cases of compound fracture of the head, reported by MM. Laurie and King, 29 were cured, and 48 died; 26 of the 77 were not trephined; of these, 18 were cured, and 8 died; that is, more than two-thirds of those not trephined recovered. Of the remaining 51 cases which were trephined, 11 were cured, and 40 died; or not quite one-fifth were cured." He continues: "Of 42 cases of trephining, after injuries of the head, that I have collected from various sources, 28 were cured, and 14 died; or two-thirds of those trephined were cured. Of 14 trephined for epilepsy, 1 died, and 13 were cured. *Summary*: Trephined, 107; cured, 52; died, 55; or nearly one-half of those trephined were cured, including epileptic cases, in which disease, the use of the trephine appears to have been especially successful." (P. 82.)

Statistics are of very little value, indeed they may be mischievous in their effects, unless the particular circumstances attending each case counted be stated. The most opposite inferences are deduced from them, according to the bias of their framers. An illustration of this fact is found in the very tables which we have quoted above: according to the data of MM. Laurie and King, "not quite one-fifth were cured" of those who were trephined; according to Dr. Smith's figures, on the other hand, "two-thirds of those trephined were cured." Hence, as Dr. Smith's avowed object, in presenting

these statistics, was "to facilitate a decision in cases where the experience of the operator may be limited," this end is certainly not gained; but, on the contrary, he has succeeded in puzzling his readers not a little to know what they should do in this matter. We would suggest that it had been wiser had he arranged briefly, in a tabulated form, the prominent symptoms present in as many cases of compound fracture of the cranium, and other injuries of the head, as he could collect, together with such other circumstances as might be regarded as of importance, and indicated whether or not the trephine was used in each case, with the result; or had he, after mature reflection bestowed upon the subject, laid down a series of general rules to govern those whose experience has been more limited than his own, and whose opportunities of consulting authorities are more restricted. It is important to know what are the conditions in which trephining is indicated, and is beneficial; what are the objections to the operation; what are the dangers attending and following it; under what circumstances it should be abstained from, although brain symptoms are present. These and similar questions should have been discussed as fully as Dr. Smith's space would permit. The chapter, as it now stands, is very incomplete.

A page is occupied with the operative treatment of *Hydrocephalus*. Dr. Smith very judiciously observes of this affection:—

"An effusion within the brain, or its membranes, being usually the result of serious organic disease, but little benefit can be anticipated from an operation which simply looks to the removal of the effect instead of the cause of the difficulty. When, however, medical treatment has failed, or as a last resort, and with a view of prolonging life, tapping the head for the removal of the fluid may be deemed worthy of trial, although the *post mortem* examination, in most instances, leaves but little reason to anticipate the general adoption of this operation."

He then mentions the names of *four* Americans who have performed the operation, and refers to *one* successful case as having been reported by Dr. James Vose, of Liverpool, in the *Medico-Chirurgical Transactions*, vol. ix.

It seems to us that the author is inexcusable for giving his readers such a *minimum* of information upon this subject, since he alludes to statistics at all, when data much more adequate for the determination of the propriety and the probable result of the operation are so accessible. To say nothing of what is contained in the general treatises on the practice of medicine, and in monographs on cerebral affections, he had at his command the interesting paper of Dr. Conquest, in the *London Medical Gazette*, for March, 1838;¹ the still more elaborate and critical essay of Dr. West, in the same Journal, for April, 1842; and the able paper by Durand-Fardell, in the *Bulletin Gén. de Thérapeutique*, vol. xxiii. A short digest of these papers would have placed himself and his readers in possession of a reliable fund of information, on which to found an opinion in any proposed operation for hydrocephalus chronicus.

The perusal of the articles above mentioned would, moreover, have induced Dr. Smith to modify somewhat the plan of operation which he recommends. He says:—

"Introduce a needle and canula, or a fine trocar, at any point of the fontanelles, or other opening in the head, not likely to interfere with the sinuses; and, after evacuating the fluid slowly and cautiously, make moderate compression upon the cranium, either by the turns of a roller or by strips of adhesive plaster tightly applied."

¹ See also this Journal for Aug. 1838, p. 477.

We would caution the young readers of Dr. Smith's book against performing this serious operation in precisely the manner which he advises. We will quote for their benefit the remarks of Dr. Conquest upon this point, as he has performed the operation perhaps more frequently and more successfully than any other surgeon of our own days. He says:—

“The operation consists in passing a small and delicately constructed trocar into one of the lateral ventricles, and drawing off so much fluid as the powers of the constitution will admit of. The most eligible spot at which the trocar can be introduced is in the course of the coronal suture, about midway between the crista-galli process of the ethmoid bone and the anterior fontanel, so that the danger of wounding the corpus striatum is avoided on the one hand, and the longitudinal sinus on the other. The instrument usually penetrates about two inches, and in most cases the serum has been colourless, but occasionally tinged with blood. In one instance, and that was in the last child operated on at St. Bartholomew's, only a few weeks since, a large and alarming quantity of florid blood escaped, most likely from a branch of the meningeal artery. Sometimes, on withdrawing the trocar, the water will not flow until a probe has been passed along the canula to remove portions of cerebrum which block it up. After taking away all the fluid that can be removed consistently with safety, the head, *which should always be steadily compressed by an assistant during the operation*, may be strapped with adhesive plaster, that it may retain its diminished size, and that the fearful consequences of suddenly removing long-continued pressure from the brain may be averted.”—*Med. Gaz.* vol. xxi. 967.

These same papers again would have reminded Dr. Smith, that there is still another method of treating this disease, which he has not alluded to, but which is applicable to, and has succeeded in, a certain number and kind of cases. We refer to the compression of the head—a plan long ago employed, but which was revived by Sir Gilbert Blane, at whose recommendation other physicians made trial of it; since his time, Mr. Barnard, of England has experimented with it, and in the year 1839 published a volume on the subject. The predecessors of Sir G. Blane, and this gentleman himself, employed common bandages; since then adhesive plaster has been used. This method has sometimes succeeded, and it should have had honourable mention in the book which is under our review.

Dr. Smith speaks distrustfully of the injection of a solution of iodine into the arachnoid cavity, originally suggested by Velpeau, and recently executed by Dr. Brainard, of Chicago.

The only remaining operation proper to the cranial region, of which the author speaks, is that for the “removal of fungoid tumours of the dura mater.” His observations concerning it are very appropriate, and he describes the proceeding of Dr. Warren in an interesting case of the kind.

From the analysis which we have made of these two chapters, and our comments upon them, our readers will perceive that Dr. Smith has committed several omissions of more or less importance. We will instance a few in addition to those to which we have already drawn their attention. We find no allusion to the occurrence of dilated and tortuous veins upon the scalp, of which Mr. Fergusson cites several remarkable cases; no mention of the existence of fatty and other solid tumours, both simple and malignant, of the same part; osteo-sarcoma, osteo-cephaloma, and spina ventosa of the cranium are in like manner overlooked. He should certainly have noticed *spina ventosa* of the calvarium, for probably there never was a more remarkable example of it than that which was presented to an American surgeon, the late Dr. Geo. McClellan, the description of which, and of the operation practised upon it, has been detailed at considerable length in that gentleman's posthumous work, edited by his son.

Operations upon the *Face* occupy rather more than eighty pages of the text, and are illustrated by fifteen plates. A succinct description of the anatomy of the different parts concerned, precedes the relation of the surgical proceedings which are practised upon them. Our limits will permit us to examine but a few of these. We will therefore make the general remark that a variety of operations are described and pictured for every affection which is brought prominently forward, so that the reader has the opportunity of exercising a selection, whenever a choice seems expedient. We may occasionally differ from the author as regards the comparative merits of certain procedures which he recommends, and we may think that he has omitted some which it would have been well to have described; it is very likely that some of our readers will, in their turn, differ from us.

Ectropium and *Entropium* are two of the most troublesome affections which the ophthalmic surgeon is called upon to treat; and consequently a great variety of mechanical means has been devised to remedy them.

Dr. Smith says, that *Ectropium*

"May result either from adhesion of the external surface of the lids to the surrounding integuments; from a diseased condition of the conjunctiva, or of the tarsus cartilage, or from want of power in the orbicularis muscle.

"In the simpler cases of the disease, or those resulting from an hypertrophied condition of the conjunctiva, much may be accomplished by free leeching; astringent collyria; cauterization of the conjunctiva in lines parallel to the fibres of the orbicularis; or by the excision of a fold in the same direction, by raising it with the simple forceps and removing it with fine scissors. But in more obstinate cases, blepharoplasty, or the formation of a new lid, must be resorted to, in order to enable the tarsus cartilage to apply itself properly to the ball."

The proceedings which he explains are of two kinds: the blepharoplastic, the formation in whole or in part of a new lid; and the shortening of the lid by removing a portion of it. He describes a sufficient number of each of these to enable any one who has comprehended the principle and aim of the operation, to modify and combine them to suit peculiar indications.

We cannot refrain expressing our dissent from the advice which he gives in the second paragraph as we have quoted it, viz.: to cauterize the conjunctiva in lines parallel with the fibres of the orbicularis, or to excise a fold of this membrane in the same direction by the aid of forceps and scissors. Any such proceeding will destroy the smoothness and pliability of the conjunctiva, and a permanent irritant will be thereby engrafted on the eye, which will induce great alteration of structure of the tunics of the globe itself.

Entropium, he observes, is the reverse of the last-named affection, and demands a treatment modified according to its causes: astringent collyria; the traction exercised by adhesive straps; the production of a slough in the integuments of the lid by the action of caustics, trusting to contraction of the lid in cicatrization to effect the cure; finally, more or less complicated incisions practised upon the offending lid, whereby a portion of it is removed.

Of the latter class of operations, he mentions three: that of Janson, which consists in the excision of a fold of the integuments upon the upper surface of the lid, parallel with the palpebral fissure, and sufficiently large to correct the deformity when the edges of the wound are united; that of Dr. Dorsey, of Philadelphia, performed in 1810, *by cutting away enough of the margin of the lid, including the tarsal edge, to remove the ciliary bulbs, and then uniting the edges of the wound by suture*; lastly, that of Mr. Saunders, performed according to Dr. Smith, about the same time as Dr. Dorsey's; but, as Dr. Dorsey said, without his knowledge of its having been executed. There is really not enough similarity between the two to make it necessary to vindicate Dr.

Dorsey from plagiarism, although this is easily done, for Mr. Saunders's operation was not publicly described until 1811, while Dr. Dorsey's was performed, as already stated, in 1810. Dr. Farre, the biographer of Mr. Saunders, and the editor of his writings, states, however, that the account of this operation was written in 1809; and from this account, we should infer that Mr. Saunders had practised it for some time previously.

Mr. Saunders's operation is thus described by Dr. Smith:—

"Introducing a thin plate of horn or silver with a curvature corresponding to that of the eyelid, the lid was stretched upon it and an incision made through the integuments and the orbicularis muscle, immediately behind the roots of the cilia, to the tarsus, from the punctum to the external canthus. Then dissecting off the exterior surface of the tarsus until the orbital margin was exposed, the conjunctiva was cut through by the side of the tarsus, and disengaged at each extremity. Sutures subsequently united the remainder of the tarsus to the upper edge of the wound, and also left but little deformity."

This last step did not form a part of Mr. Saunders's operation; he used no sutures, and makes no mention of them in his description of the proceeding, but allowed the wound which he made in the lid to heal by granulation. He says, indeed, that in all the patients on whom he operated, "a fungus of considerable size sprouted from the centre of the section;" and directs that it be sufficiently repressed by caustic or the knife. (Mr. Saunders's *Treatise*, edited by Dr. Farre. London, 1811, pp. 53-54.)

Dr. Smith prefers the operation of Dr. Dorsey to that of Mr. Saunders—

"From its simplicity, as it only requires that a tenaculum should be passed through the edge of the eyelid, in order to gain a secure hold; and then, seizing the lid in a pair of forceps, that a sufficient portion should be removed by two or three clips of the scissors." (P. 103.)

In this comparative estimate of the two proceedings we cannot agree. Simplicity and facility of execution are, it is true, important recommendations in favour of any operation, provided they are not gained at the expense of equal disadvantages. The simplest and easiest way of removing a leg, is certainly to make a single circular sweep with a knife around and through the soft parts to the bone, and to divide the latter by a few movements of the saw, or to chop it off at once with a broad axe; but this plan, very well adapted to the purposes of the *butcher*, presents so many objections to the *surgeon*, that it is not recommended as a mode of amputating. And so, with reference to the operation of Dr. Dorsey, it may be done in a moment by any one who can use knife or scissors; it is objectionable because it removes important parts altogether unnecessarily; parts, the preservation of which is of consequence to the maintenance of the healthy condition of the eyeball, as will be readily understood when the offices of the anterior portion of the eyelid, and of the glandular organs connected therewith, are considered. We conceive that Mr. Saunders's operation is, therefore, a much more scientific and surgical proceeding than that of Dr. Dorsey.

There is a modification of Mr. Saunders's plan of remedying entropion, by which the conjunctiva is untouched, practised by Jaeger; and an improvement on this, again, by Mr. Wilde, of Dublin, in which the margin of the conjunctiva is united by fine sutures to the edge of the incision made in the integument. These operations might with propriety have been alluded to by Dr. Smith. Those of Sir P. Crampton, Mr. Guthrie, Mr. Tyrrell, Dr. Jacob, and Wharton Jones, as they have been warmly advocated and are still very often performed, should have been noticed also.

We pass over, without detaining our readers by a critical examination, a

long catalogue of varied and important operations performed upon the eye, the face, and the cavities which are connected with it. We might point out omissions here and there, and errors in pathology, more or less harmless, as we have done in the preceding pages. But we would not fail to acknowledge that these chapters contain a great deal of very excellent matter; descriptions of a great variety of beautiful and important operative proceedings, well suited to remedy the diseases and deformities to which they are applied; interesting historical facts connected with the practice of surgery in this country; in short, much that will assist the operator in some of the most delicate manipulations which he will have to perform.

From among the operations described we will call attention to those practised for the removal of the *Superior* and *Inferior Maxilla*, to which Dr. Smith devotes many interesting pages. The happy proceeding by which the late Dr. Horner amputated the former bone, without any external incision of the cheek, and *without removing the floor of the orbit*, is detailed at length. It strikes us that Dr. Smith does not lay sufficient stress upon this latter point, which is of so much consequence to the preservation of the eye. In the 3d vol. of the *Transactions of the American Medical Association*, pp. 363-4, Dr. Smith might have found some very applicable remarks upon this subject, by Dr. Atlee, of this city. And, on the same page, Dr. Mussey, of Cincinnati, describes the plan which he has pursued for many years, by which the preservation of the orbital plate of the superior maxillary bone has been secured, and the motions of the eye have been perfect ever after.

The history and description of the operations performed for the removal of the *Lower Jaw* are fully set forth, and the connection of American surgeons with this achievement is properly insisted on, Dr. Deadrich, of Tennessee, having been the first to prove its feasibility.

In the amputation and disarticulation of this bone, as commonly accomplished, paralysis of the facial muscles results in consequence of the division of the facial nerve. This is a serious evil, and should have been noticed by Dr. Smith; especially since an operation was performed by Dr. Mussey, and described by him in the volume just quoted from, p. 365, in which this accident was skilfully avoided. This, Dr. Mussey thinks, is the first, and so far the only case, in which the nerve was not out.

Operations upon the *Neck* and *Trunk* constitute the subject of the *third part* of this treatise. To their elucidation are devoted nearly two hundred and fifty pages, and twenty plates. They relate to the parotid gland, the larynx and trachea, the pharynx and oesophagus, the ligature of the great vessels of the neck, injuries and diseases of chest, abdomen, and spine, &c., &c.

After giving a very good description of the *anatomy* of the cervical region, drawn chiefly from Blandin's *Anatomie Topographique*, Dr. Smith takes up the diseases of the *parotid gland*, which require surgical interference. The reader is properly cautioned against mistaking tumours and degenerations of the *lymphatic glands* of this region for alterations of the parotid itself. An error which, it is believed, has been frequently committed. The author draws attention to the fact that hypertrophy and other structural changes of this body, modify materially its relations with neighbouring parts, render it more condensed, more concentrated upon itself, and thereby more easily dislodged from its naturally deep bed. He says:—

“That surgeons have been misled in relation to the difficulties of the removal of this gland (when diseased), from comparing the operation with that attempted in a state of health, is certain, and daily experience is now leading many to place confidence in the views of those surgeons of the eighteenth century who advocated the operation.” (P. 236.)

A brief historical sketch of the operation is given, from which it appears that Dr. Warren, of Boston, first removed the entire gland in this country, viz., in 1798; but to the late Dr. Geo. M'Clellan is chiefly ascribed the currency of the proceeding as a practicable one, this gentleman having performed it more frequently, probably, than any other surgeon of any country; viz., eleven times.

The processes employed by Drs. M'Clellan, Mott, Randolph, and Horner, are described, and some very good general remarks are presented upon the different steps of the operation, and a variety of important points connected with it. We quote the following:—

"*Statistics*.—Of eleven cases in which the parotid gland was extirpated by Dr. Geo. M'Clellan, one died on the fourth day from hemorrhage,"

(a mistake, by the way, for the patient "sank under *comâ*" on the fourth day after the operation, from the effect of the ligature around the common carotid artery."—M'Clellan's *Principles and Practice of Surgery*, p. 332.)

"and one died three years subsequent to the operation. Three cases have been operated on successfully by Dr. J. C. Warren, of Boston; one by Dr. J. H. B. M'Clellan, of Philadelphia, successfully; and one each by Drs. Mott, Horner, and Randolph. From an examination of the account furnished by Velpeau, it appears that there are over thirty-five cases of this operation, in which there is good reason to believe the entire gland was extirpated; making, in all, fifty-three cases of removal." (P. 241.)

It is to be regretted that Dr. Smith did not present a careful analysis of this considerable number of cases of so important an operation; stating the nature of each; its duration previous to its removal; the result of the operation relative to the return or non-return of the disease, the size of the tumour, &c. In this way, some reliable precepts might have been propounded touching the true pathology of parotid tumours, the expediency of removing them, and the conditions which demand or justify this course. The statement of Velpeau, which is referred to by Dr. Smith, is too meagre to justify any important inference upon these points; indeed, we do not think it warrants the deduction of Dr. Smith, that the entire gland was removed in even thirty-five cases. But Velpeau gives references, in most instances, to the sources whence he obtained his facts, and perhaps an examination of these would have enabled our author to lay before his readers a more satisfactory account of parotid tumours than has yet been published.

Dr. Smith is evidently under the impression that these tumours are *cancerous*. That some of those which have been removed were cancerous, generally scirrhus, we do not doubt; but there is very little reason to think that they were such in most instances. The recovery of so large a number of cases after operation, is too entirely contrary to our knowledge of the ordinary termination of cancer elsewhere, to permit us to believe that these were of that character; and the reports of the examinations of the tumours removed have been ordinarily so imperfect as to throw very little light upon this question. In some of the cases cited by Velpeau, it is expressly stated that the tumour was of a simple character; Lebert found that in one instance in which a supposed cancerous parotid was removed the gland was merely hypertrophied, and in another that only a fibro-plastic exudation existed in this body.

But the cure of these parotid tumours has been attempted in another way:—

"In order to avoid the necessity of resorting to extirpation of the parotid in cases of scirrhus," says Dr. Smith, "long-continued compression of the gland

or ligature of the carotid artery, has been occasionally practised. After ligating the primitive carotid, Dr. Alexander E. Hosack, of New York, succeeded in causing the entire absorption of this gland in two cases; and, in a third, absorption had visibly commenced.

"In estimating the value of this operation, one difficulty certainly exists, and that is, the utter impossibility of deciding whether the tumour is formed by the parotid, or by the adjoining lymphatics. Under ordinary circumstances, any surgeon who could accomplish the ligature of the artery could also remove the tumour, render the removal of the disease certain; and, under the use of anæsthetics, cause his patient but little additional suffering. The selection of either of these operations must, therefore, depend chiefly upon the abilities of the operator."

Dr. Smith has not displayed, in this opinion, his usual good judgment; and we do not believe that he expresses the sentiment of the generality of American surgeons. There is little comparison between the risks of tying the carotid artery simply, and of not only doing this, but, in addition, of removing a large tumour from a part so beset with difficulties as the parotid space; and, certainly, the success which has followed this treatment in Dr. Hosack's cases, and in many others not essentially dissimilar (See Walshe, on *Cancer*, p. 204), renders it, at least we think so, a preferable proceeding; particularly as the other operation is not thereby prevented, subsequently, but is rather facilitated if the simple ligature of the vessel have failed. The choice of the operations should not, we conceive, "depend chiefly upon the abilities of the operator," but upon the peculiarities of each case: the size and mode of growth of the tumour, its degree of vascularity, its probable pathological character, &c.; the mere application of a ligature around the carotid, or the ablation of a parotid tumour, are, comparatively speaking, *bagatelles*. And, if Dr. Smith is correct in supposing that these growths are cancerous, the former operation we should consider as decidedly the more feasible of the two, so far as the patient is concerned.

The operations for the relief of *œdema of the glottis*, and for the removal of foreign bodies, or other obstructions, from the *Larynx and Trachea*, receive from the author a degree of attention proportionate to their importance, and the urgency of the symptoms which call for them. Of those by which *Tracheotomy* is accomplished, he prefers that of Dr. Pancoast, of this city. The advantages which this possesses over all others are:—

"First, less risk of hemorrhage, in consequence of lacerating the parts about the median line of the muscles, instead of dissecting them, as well as from ligating the isthmus of the thyroid gland previous to incising it. Second, the preservation of the opening in the trachea without irritating its lining membrane, or resorting to an instrument that exposes the patient to the risk of suffocation by its escape from the wound, or by its clogging with the secretions of the part. And, third, the power of looking into the windpipe, and judging accurately of its condition, or of applying remedies to correct it, if desirable." (P. 257.)

Dr. Smith describes and gives a drawing of a neat and simple contrivance of his own, by which the wound in the integuments and trachea may be kept open without using a trachea-tube. It consists of two broad pieces of watch-spring, so connected at one extremity that one of the pieces may slide over and upon the other, and be secured, by a screw, at any point; the other extremity of each is bent like a hook. The instrument is placed around the neck from behind, the hooks are caught under the edges of the incision, and are made to exert the requisite traction by regulating the length of the band, with the aid of the screw.

The difficulties and dangers attending the operation, the circumstances calling for it, &c. &c. are dwelt upon. A statistical table is given of 245 cases, in which tracheotomy was resorted to for croup. Of these, 57 were cured, and 188 died; but Dr. Smith remarks that in almost all of these cases the wound was kept open by means of a canula introduced through the incision into the windpipe, and that the operation was not resorted to until nearly every other means had been tried. In contrast with this, he presents a table of 28 cases, in which the operation was executed for the removal of foreign bodies lodged in the trachea, only one of which died; proving that the fatality of the operation in croup was owing, not to the mere opening of the windpipe, but to circumstances connected with the disease.

He truly states, we suspect, that, in this country, the opinion of the profession is adverse to the operation. But, he says:—

“In most of the cases reported, tracheotomy was deferred until the complaint had existed some time, and progressed from the larynx into, or induced congestion of, the lungs, or augmented the dangers from the incisions; by causing engorgement of the vessels of the neck, as well as an unhealthy condition of the lining membrane of the trachea at the point operated upon. Until, then, we can acquire such statistics as will show that the cases operated upon at an early period after a positive diagnosis of membranous croup has been made; and operated on so as to leave an opening not liable to clog with mucus, as well as free from the continued irritation that has been caused by the presence of a tube, correspond with the mortality under the former mode of operating, the question must be regarded as unsettled. Cauterization of the pharynx and trachea through the mouth, together with early depletion, calomel, and emetics, have saved many cases of true membranous croup, and will, consequently, be a strong argument against the performance of an early operation. But when croup occurs in those who are hereditarily predisposed to it, or when other members of a family have died from it, I would advise an early operation, and anticipate more success from it than I should from medical means alone, provided the operation was resorted to before the inflammation had reached the portion of the tube which was to be opened, and the wound in the trachea was kept open, either by the hooks introduced upon its sides; or, if that was not sufficient, by their being placed upon the edges of the rings themselves. But I would not advise tracheotomy in any case where the operation had been delayed until asphyxia was threatening, and the blood had ceased to be well aerated.” (P. 260.)

One of the most important points of this question has not been mentioned by the author, although it is *the one* upon which the performance of the operation is made to depend. He “would advise an early operation, provided the operation was resorted to *before* the inflammation had reached the portion of the tube which was to be opened.” How will he determine this important fact? That the most experienced auscultator cannot always decide it is admitted, because the tracheal sounds are so loud as to overwhelm the fainter vesicular murmur, even when the pulmonary vesicles do expand. In proof of this, we refer to the cases reported by Dr. Pepper to the College of Physicians of this city, and published in the volume of their *Transactions* for 1852. In one of the cases reported, a vesicular murmur *was supposed* to have been heard; and yet, after death, in spite of tracheotomy, a false membrane was found lining even the minute ramifications of the bronchial tubes; in the other, it was inferred, from careful and repeated auscultation, that the exudation was equally diffused, as in the first case; an operation was proposed, but not urged; it was consequently declined by the parents of the child. After death, the false membrane was found *limited to the larynx*, and quite delicate.

We are ourselves decidedly in favour of tracheotomy in membranous croup,

and of its execution prior to the supervention of those symptoms which indicate that the sensibilities and recuperative energies and powers of the nervous system are failing under the paralyzing influences of undecarbonated blood. And we would advocate the performance of the operation, because we know that recovery, without it, is almost hopeless, especially if the application of nitrate of silver to the interior of the larynx has been tried in vain; because tracheotomy has succeeded at times, even in the most desperate cases, and almost always affords temporary relief; because its performance is generally not difficult; and finally, because, inasmuch as we cannot, with any degree of certainty, determine the extent of the plastic exudation, and the operation may effect permanent relief, we think it our duty to give the patient "the benefit of the doubt;" to offer, indeed, the only possible means of rescue from what seems otherwise a certain, and, to the friends if not to the patient, an agonized death. The question, how long the operation may be delayed, or how long a person may suffer from imperfect aeration of the blood, and yet be saved, is one which Dr. Smith has not attempted to solve; and in this prudent reserve we shall imitate him.

There are a few important items belonging to the management of the case subsequent to the operation, which have escaped Dr. Smith's attention, viz., the proper temperature and hygrometric state of the air of the apartment, &c. &c.

We see no mention made, in this volume, of *Polypus of the larynx*, and of the operations to be performed for it. The author would have found materials for a notice of this affection in the excellent Essay of M. Ehrmann, of Strasbourg, an analysis of which was presented to our readers in the number of this *Journal* for April, 1851.

We commend highly the observations of Dr. Smith upon the operations performed on the *Pharynx* and *Œsophagus*, with one reservation. After describing the operation for opening the œsophagus in impassable stricture, attempts at dilatation having failed, he says:—

"Deeming the relief afforded by it dearly purchased at the risks of the operation, except in very skilful hands, I cannot but think that the dangers of making an opening directly into the stomach, as referred to by Dr. Watson (of New York), in the paper before quoted, are certainly not greater than those incurred in œsophagotomy. The number of instances in which wounds and openings into this organ have not proved fatal will, on examination, be found to be much larger than might, at first sight, appear probable." "In the event of the distribution of property, or to accomplish some great moral good, or in order to fulfil an important duty to another, a patient might desire to prolong life, if possible, even for a few weeks; and, under such circumstances, it may become imperative on a surgeon to resort to such means as will enable him to gain the desired time." (Pp. 279-80.)

We would suggest that, ere advising a procedure of this kind, Dr. Smith should have placed at the command of his readers all the facts which Dr. Watson and others, as well as himself, have been able to collect, having any bearing upon the matter at issue. To support the propriety of opening the stomach, in such cases as he alludes to, by simply reminding us that certain individuals have lived for some time after "wounds and openings into this organ," is ridiculous. There is a case on record, in which a man was pinned to a wall, his chest transfixd by the shaft of a gig; there is another, in which a bar of iron was driven through the skull; recoveries from such injuries as these do not, we conceive, afford us any warranty for wilfully attempting a repetition of them. And if, as the author says, the main object of the operation be merely to gain a little time for the patient, we cannot but think that

the probability of such a result is smaller than if he were let alone, and nourishment introduced by some other avenue. To open the stomach of a man who is dying of stricture of the œsophagus, in the vain hope of adding a few days to his miserable life, seems very much akin to thrusting him "out of the frying-pan into the fire," if we may be permitted to employ the expression.

The next chapter describes "operations demanded for the relief of *Deformities of the Neck*," including those resulting from burns. These are well explained, and honourable mention is made of the Warrens, Dr. Mütter, and other American surgeons who have distinguished themselves in such cases.

Between twenty and thirty pages are allotted to *Tumours of the Neck*, their general pathology, diagnosis, and the methods of removing them by operation; and the text is illustrated by several beautiful drawings. The author quotes the reports of operations practised upon some remarkable growths of this kind on the neck, by Drs. Warren and Mott. This whole chapter may be referred to as being one of the best in the book.

The accidental introduction of air into the veins, which has elicited so much valuable investigation, the effects produced by it, the method of counteracting them, and of preventing the occurrence of the mishap—these points have received scarcely any comment from the author; indeed, such a casualty is only once alluded to, and that in connection with one of the operations of Dr. Warren.

The succeeding three chapters discuss the processes resorted to in the *Application of Ligatures to the great Arteries of the Neck*. The special operations, in which many American surgeons have made themselves eminent, and the histories of which are traced by Dr. Smith, are preceded by some general remarks on *aneurism*. The author does not, of course, devote much space to the general pathology of this disease, but enunciates the principal rules to be followed in the diagnosis of aneurismal tumours, and in ligating the vessels; these directions he quotes chiefly from Lisfranc. In what relates to these practical matters, Dr. Smith's book may be consulted with advantage. The text is, as elsewhere, well elucidated by numerous anatomical views and representations of instruments. Valuable statistical tables are also presented in connection with the operation upon each vessel.

We are considerably surprised to find, in all these chapters, no allusion whatever to the modifications of Hunter's operation proposed by Brasdor and Wardrop. The proceeding of Mr. Hunter, it will be recollected, consists in the application of the ligature around the artery on the *cardiac* side of the aneurism; that of Brasdor on its *distal* side, but near to it, in order that no branch shall leave the diseased vessel between the tumour and the site of the ligature; Mr. Wardrop's, in ligating only one of the two branches into which the main trunk divides, the aneurism being on the cardiac side of the bifurcation; *e. g.* tying the common carotid or the subclavian for aneurism of the innominata. Hunter's plan is unquestionably the most generally applicable of the three, and Mr. Wardrop's the least so, because a considerable branch remains more or less pervious between the ligature and the tumour, so that the circulation through the latter is but partially arrested. In aneurism of the *common carotid* artery at its origin, however, Brasdor's operation offers the only chance of curing the disease by direct remedial means, for ligature of the innominata is certain to end in the patient's death. Mr. Wardrop suggested his operation, not as being superior to either of the others, but as "a mode which is more particularly applicable to the treatment of aneurisms so situated that neither the operation of Hunter nor that of Brasdor can be per-

formed." (*Cyclopædia of Practical Surgery*, vol. i. p. 226.) The grounds upon which the propriety of the proposition was based are, that in many cases of aneurism in which the artery had been tied above the tumour, and the aneurism thereby cured, the current of blood through the latter had not entirely ceased, but had simply been moderated to a certain degree, as has also been the fact in many instances in which *compression* has succeeded; and that, in many cases of aneurism of the anonyma, nature commences a process of cure by diminishing very materially, or completely arresting, the flow of blood through one of the bifurcating branches. In Mr. Wardrop's paper, several instances of this kind are adduced: one in which the circulation through the right carotid had diminished so much that the pulsations of the vessel could scarcely be felt; another, in which this artery had become completely obstructed, not only by the pressure of the aneurismal tumour with which it was in close contact, but also by a delicate false membrane which covered the orifice of the vessel at its origin from the sac; a third, where the consolidation had been accomplished by the obliteration of the subclavian as well as the carotid; a fourth, in which "the action of the right carotid was much more feeble than that of the left, and its branches did not pulsate; the right subclavian beat naturally, whilst the axillary and brachial vessels could scarcely be felt." And, in addition to these cases, in the *Pathological Catalogue* of the Museum of the Royal College of Surgeons, vol. v. pp. 258-60, are descriptions of five preparations of aneurisms of the innominata; in two of these, the right subclavian and carotid are healthy; in one they are a little dilated; in the fourth, "between the first rib and the clavicle, the subclavian artery is obliterated, probably by the pressure of the aneurism;" and in the fifth, "the right carotid artery adheres to the front of the sac and is flattened by it; the right subclavian adheres to its lower part, and is obliterated by its pressure." The result of the operations which have been practised according to the plan of Mr. Wardrop, has not been unsatisfactory, if the fatal character of the aneurism, when left to itself, be considered. Mr. W. reports eight cases in which the operation has been done; in five, the ligature was placed around the carotid, and, in three, around the subclavian. "In five of the cases the operation was followed by relief of all the symptoms, and by consolidation and a diminution in the bulk of the tumour. The three other cases were unsuccessful; but this militates not against the principles of the operation itself, but the injudicious selection of the patients in whom it had been employed," &c. *op. cit.* p. 236. Of the first five, two were entirely cured; one lived twenty-three months; one, eight months; one, twenty months. Of the three other cases, one lived only a month, the ligature still remaining in the wound; another survived only a few hours; in the third, the time of death is not given, but the aneurism, after diminishing for a while in bulk, soon increased and ultimately proved fatal.

In determining which of the two branches should be tied, Mr. Wardrop advises that if one of the two be partially obstructed the other should be ligated; when the caliber of both seems about equal, that the *carotid* should be selected, in imitation of nature's mode of spontaneous cure; the carotid being more commonly plugged up than the subclavian; and, moreover, the carotid is more favourably circumstanced for the ligature than the other, because no branches are given off between the ligature and the sac.

From these considerations, therefore, we repeat that Dr. Smith should have treated of these two modes of operating.

Operations upon the *Chest* are described in the next three chapters, embracing those for extirpation and resection of the clavicle and scapula, for ligating

the axillary artery beneath the clavicle, operations upon the mammary gland, the removal of tumours of the chest, resections of the ribs, paracentesis thoracis, paracentesis of the pericardium, &c. &c.

There is in these chapters much, very much, to commend; and there is, likewise, reason to regret the omission of some important matters.

The twenty-four pages devoted to the subject of *Mammary Tumours* will well repay a careful perusal, particularly with reference to the operations performed for their removal, both as to the *modus operandi*, the expediency of the measure, and its effect on the subsequent course of the constitutional disease, if such exist. And we take pleasure in stating that, in connection with the removal of these tumours, as also in the description of the extirpation of the clavicle, Dr. Smith strongly cautions his readers against the danger of air rushing into the large veins implicated in the operations, the omission of which warning in operating upon tumours of the neck we before alluded to. His authorities on the pathological relations and constitution of mammary tumours are, principally, M. Velpeau, Sir A. Cooper, Dr. Parrish, and Dr. Warren; a reference to the investigations of Sir B. Brodie, Mr. Paget, Lebert, Walshe, Robin, Bérard, Brocha, and Birkett, upon these affections would have been very *à propos*.

Empyema and the operations for evacuating the fluid are discussed very fully and fairly. The mode of tapping the *pericardium*, though the operation is stated to have been several times performed, and once *successfully* by the elder Dr. Warren, supposed, indeed, to be the only really successful case, is not described.

The most unsatisfactory and incorrect account is given of the operations practised upon the Clavicle and Scapula.

In his remarks upon "*Extirpation of the Clavicle*," Dr. Smith says:—

"The only real cases of entire extirpation of the bone that I have been able to find recorded, are those performed in the United States by Drs. Mott and Warren."

He then describes these operations in full, and very interesting and instructive details they are. Subsequently, in treating of resection of the sternal end of the clavicle, he cites the instance in which M. Velpeau operated on the bone for necrosis, and that in which Dr. Davy, of England, amputated a portion of its sternal extremity, to remove the pressure exercised by it upon the œsophagus after dislocation. Now we find that Mr. South (*Translation of Chelius*, vol. iii. p. 763) reports several other instances in which the collar-bone was entirely removed; once by Cuming, at the Naval Hospital at Antigua, after amputation at the shoulder-joint, and removal of the scapula in consequence of a gunshot wound; once, each, by Meyer and Roux, for caries; once by Travers, the acromial extremity being disarticulated, and the clavicle divided as near to the sternal end as was practicable. Chaumet, of Bordeaux, also removed *four-fifths* of the clavicle on account of a tumour originating from it.

As regards similar operations performed upon the *Scapula*, Dr. Smith has only this to say:—

"*Resection of the Acromion Process of the Scapula*.—The resection of this process would be an operation so very similar to that of the acromial end of the clavicle, allowance being made for the position of the muscles and other parts, that it can be readily understood without farther reference." (P. 351.)

One would certainly be justified in inferring, from the above paragraph, that no larger part of the scapula has ever been removed than its acromion process,

or, at least, that Dr. Smith knows of no more extensive ablations. We again refer to Mr. South and Chelius for more information, and are surprised to learn that large portions of the scapula have been repeatedly resected. Haymann removed all below the glenoid cavity and the spine (of the scapula); and, after the patient's recovery from the operation, the upper arm could be moved in most directions, its elevation alone being interfered with. Mr. Liston, in 1849, removed about three-fourths of the scapula, leaving only the glenoid cavity, the processes, and half of its spine. Janson removed a large portion of the bone, but left the glenoid cavity. Mr. Luke, in 1828, left only the glenoid cavity and a very small portion of the spine, the latter having been sawed through very close to the former, and in an oblique line, so that the superior angle of the bone was removed with the body. Mr. Syme "sawed through the neck of the scapula and removed a portion of the bone, including the coracoid process." Mr. Travers, in 1888, removed all the scapula immediately below its spine. And we find that Dr. Gilbert, of this city, "removed about one-third of the clavicle and the neck of the scapula." (McClellan, *op. cit.* p. 423.)

But a still more remarkable oversight on the part of Dr. Smith is yet to be mentioned; we refer to the *Removal of the entire Scapula with a part of the whole of the Clavicle*, a proceeding to which he makes no allusion.

This is an omission the more surprising because the operation was first done in this country, and has since been repeated here. Reverting again to Mr. South's edition of *Chelius*, we find that, in 1837, Dr. Mussey, of Cincinnati, at that time, however, of New Hampshire, removed the whole of the scapula and clavicle at one operation; in 1838, Dr. Geo. McClellan, of this city, repeated the exploit, not having known of Dr. Mussey's. (See McClellan, *op. cit.* 412.) Rigaud, of Strasbourg, removed, in 1841, the whole of the scapula, and, in 1842, the outer portion of the corresponding clavicle; in 1847, Mr. Fergusson accomplished an equal abstraction in a single operation; in 1830, Gæstani removed the humerus, the scapula, and the external portion of the clavicle.

It is certainly unfortunate that, in a book which aims at recording the important operations of American surgeons, achievements of such magnitude as these which we have now adduced should not be chronicled in their favour. A glorious change must have taken place within the memory of our elders in the profession, if they may turn, and not in vain, to "*perfidè Albion*" for the justice which one of their own sons has failed to award them. Nor is it less to be regretted that Dr. Smith should have neglected to pay proper attention to similar operations by foreign surgeons.

We pass over the author's remarks on *Paracentesis Abdominis, Hepatic Abscess, Gastrotomy, Enterotomy, gastric and intestinal Fistule, Wounds of the Intestine*, &c. To the latter he devotes many pages and some excellent drawings.

Hernia is the subject of the next three chapters, and five plates, extending over more than forty pages. The chapters are subdivided into sections and subsections, as follows: on *hernia in general*, in which the author alludes in very proper terms to the faulty mode in which the anatomy of hernia is studied, great attention being paid to the normal appearances of the tissues in subjects where no hernia exists, and little or none to the *pathological anatomy* of ruptures; on the *general Pathology of hernia*, including an account of its envelope, its seat, the effects of its formation, its divisions into reducible, irreducible, and strangulated; on the *Treatment of hernia*, by reduction, by means

instituted for effecting a radical cure, and, finally, by *Operation*, when the rupture has become strangulated, in each of its regional varieties.

We regret feeling compelled to say that we think this whole matter has been very imperfectly dealt with in the treatise before us, in view of the frequency of the disease, its importance among surgical affections, and the great amount of successful research which has been expended upon it, not only abroad but in some particulars, at least, in our own country.

In the section upon the "*means of radically curing reducible hernia*," Dr. Smith says:—

"After the reduction of a hernia, and the application of a truss, the patient is secure, for the time, from the dangers of strangulation; and though it has been asserted that radical cures have been effected by the constant use of the instrument inducing such adhesions and indurations of tissue as plugged up the ring, my opportunities (and they have not been slight) have never enabled me to see one well-grown adult who had obtained this result from the use of an instrument. In children and young persons, such a condition has been created as prevented the reproduction of the complaint for years; yet, even in these patients, the success has been far from constant. The most, therefore, that can be asserted of any truss is, that, after its application, the patient is not liable to a descent of the hernia, provided it fits well, and is constantly worn." (P. 413.)

From the above, it is evident that Dr. Smith adopts the antiquated notion that the manner in which a truss acts is by exciting inflammation in and about the apertures concerned in the transmission of the hernia, thereby "inducing such adhesions and indurations as plug up the ring." Trusses have, indeed, been constructed for the express purpose of exciting inflammation of the cellular tissue, fascia, and tendons, about the hernial orifices, so as to condense and agglomerate these into a common mass. But such instruments have been condemned as worse than useless; verdict was pronounced against them by the Committee appointed in 1835, by the Philadelphia Medical Society, to investigate the subject. This Committee declared strongly, "that the radical cure of hernia, by trusses, depends almost exclusively, if not entirely, upon the accuracy and permanency of the retention effected by the instrument; that considerable or long-continued irritation in the parts, so far from being an advantage, in reality opposes the successful treatment." (Final Report of the Committee, in the *Am. Journal*, vol. xx. p. 542.) Dr. Smith makes no mention of this capital report, nor of the volume on the same subject published by Dr. Chase of this city, and sanctioned by the approval and approbation of the above Committee; an omission which is unpardonable, when we consider that the trusses therein recommended, even if they do not produce a radical cure, in the opinion of Dr. Smith, nevertheless approach nearer to this desirable effect than any other. But the author has advanced his own experience and opportunities (which, though "they may not have been slight," have not, we should suppose, been so extensive as those of some other observers whom we shall presently mention) as conclusive respecting the want of reliance to be placed upon the truss for the permanent cure of hernia, even in children and young persons. The Committee of the Medical Society, above alluded to, in their first report, bear the following testimony upon this point:—

"That success in cases of *umbilical hernia* in young children is almost general, when methodical bandaging has been judiciously employed; that in other varieties of hernia, affecting subjects of similar ages, success is by no means rare, *under the operation of trusses with soft pads*; that in children over ten years of age, it becomes rather uncommon; that in youths between the age of puberty and that of twenty years, it becomes rare; and after the latter period

very rare. . . . But the Committee have no hesitation in stating that the action of the several blocks, recommended by them, appears to offer much more prospect of radical cure, even under unfavourable circumstances, than any apparatus previously offered to the public." (*Am. Journal*, vol. xvii. p. 324.)

The same Committee state, in their final report, that—

"All the individuals who have relinquished the use of the trusses approved by the Committee, after having worn them for six months or more, and who have afterwards been examined by a member, or by members of the Committee, have been subjected to the necessary tests, and are believed to be radically cured in the sense of the foregoing definition."

This definition is as follows: "A cure is radical when the tendons and fascial barriers to the egress of the bowel are brought or restored to their normal or original firmness and power of resistance." The Committee continues:—

"A still larger number, who are still under treatment, give promise of a similar result; and others, who refuse finally to relinquish the instrument, on the advice of their surgeon, present, in the firmness of the rings, or in the absence of protrusion under exertions performed when the trusses are temporarily removed, very strong grounds for believing the cure to be radical in them also." (*Am. Journ.* vol. xx. p. 569.)

M. Malgaigne has found the treatment by trusses to be very successful between the ages of thirteen and thirty-five, a fact which he is disposed to ascribe partly to the frequency of hernia within this period of life, occasioned by undue bodily exertion. M. Verdier thinks that, prior to the age of puberty, we may count upon a permanent cure in three-fourths of the cases; during the early adult period, provided the rupture be recent and accidental, about two-thirds are relieved; as age advances, the proportion of cures decreases, so that of subjects above forty years old, not more than one in ten is radically cured. (*British and Foreign Medical Review*, vol. xiv.) Finally, the Committee, consisting of Drs. Hayward, J. M. Warren, and Parkman, appointed by the National Association to report on the "Permanent Cure of Reducible Hernia," concludes, after passing in review the different operations which have been practised for this object, "that compression, when properly employed, is, in the present state of our knowledge, the most likely means of effecting a radical cure in the greatest number of cases." (*Transactions of the American Medical Association*, vol. v. 254.)

But whatever may be Dr. Smith's individual notions on the subject of trusses as adapted to the radical cure of hernia, he should at least have stated the general principles to be followed in their construction, and have described those which are most approved of in this country. This he should have done, partly because the vast majority of surgeons, not only in this country but throughout the world, would certainly advise the wearing of a truss, before resorting to any of the unsatisfactory, and somewhat hazardous operations which have been devised; and partly because, even if the truss cannot produce a radical cure, it can at least be permanently worn, and thus prevent the descent of the bowel.

Having, however, summarily, and, as we trust we have shown, unwarrantably disposed of the truss, Dr. Smith proceeds to treat of the *operative* measures which have been resorted to for the cure of reducible hernia. Of these he describes only two, that of M. Gerdy, with which our readers are familiar, and that of Dr. Nott, of Mobile. The latter consists in the passage of a leaden wire around the neck of the sac, and through the pillars of the external ring, the sac having been previously exposed, opened, and partially "removed with the testicle to which it was adherent," and then the wire

drawn tightly so as to approximate the pillars of the ring, and to compress the neck of the sac (p. 414). He also mentions that Dr. Jamieson, of Baltimore, performed a plastic operation for the radical cure of hernia; but the *modus operandi* he does not describe. Of these three operations, and indeed of all the operations, he prefers that of Dr. Nott. Now, that Dr. Smith should for a moment *think* of performing this operation of Dr. Nott, by which he would deprive a man of one of his testicles, *without the slightest necessity* for the horrible mutilation, and with no well-grounded hope that a permanent cure of his hernia will be accomplished, is surprising enough; but that he should really advise any one else to do so, that he should still farther print and publish such advice for the guidance of young men, is infinitely worse. "Do unto others as ye would have others do unto you," is the safest and wisest rule for the government of a surgeon in doubtful cases; we are very certain that Dr. Smith did not think of it when he penned that paragraph.

We do not blame Dr. Smith for not having described most of the other proceedings which have been from time to time advanced for promoting the radical cure of hernia, for we think they are generally powerless, if not worse, and are all inferior to the properly made and applied truss; such are the excision of the sac, either with or without castration; the employment of the ligature; the blocking up of the hernial canal with a piece of omentum, the hernial sac, or the testicle; the ingenious expedient of M. Belmas, consisting in the introduction into the neck of the sac of little globes of goldbeater's-skin or threads of gelatin; the plan of M. Bonnet, of compressing and obliterating the sac by means of pins passed through it, and through the integuments, and subsequently secured, &c. But the operations of subcutaneous puncture and scarification of the sac, which have for many years been resorted to in this country, should have been described. The mode of injection practised by Dr. Pancoast, and described by him in his *Operative Surgery*, an operation which is indorsed by the Committee of the American Medical Association, in the report before cited, "as the safest and best" of those which have been recommended; and the method of closing the external ring without exposing the sac, by the subcutaneous introduction of sutures through the pillars of the external ring, and subsequently approximating these by drawing upon the sutures—these methods should certainly have received from Dr. Smith respectful consideration, inasmuch as they are American suggestions, and have not, moreover, proved unsuccessful. We may remark, in this connection, that Dr. Smith has omitted to state that a very excellent and condensed account of the various methods that have been employed during the last eighteen centuries, for the cure of reducible hernia, was published by Dr. Bryant, of Boston, being the *Boylston Prize Essay* for 1847.

In describing the treatment of *Strangulated Hernia*, the author dwells fully upon the taxis, and makes some very judicious remarks upon the impropriety of continuing such efforts too long, as the success of the subsequent operation is rendered thereby a matter of doubt. In his account of the operation for strangulated hernia, he has purposely limited "the description to such details as are most frequently demanded, several complications have therefore been intentionally omitted, lest reference to them should tend to embarrass the mind of the young surgeon, and render the operation unnecessarily difficult." This kindness may be all very well in its intentions; but we submit that these complicated and unusual cases are the very ones in which "the mind of the young surgeon" chiefly needs assistance; and that it is very unkind in Dr. Smith to leave him with nothing but vague generalities to fall back upon, when if a separate section had been devoted to these obscurities, the main

operation would not have been mystified, and difficulties might have been explained and lessened.

Dr. Smith says that—

“The division of the stricture without opening the sac has been sanctioned by Mr. Key, and others of high authority; but the propriety of it, as an operation adapted to the inexperienced surgeon, is deemed by many others a matter of doubt. The greatest objection to it is the risk that is always run of reducing the hernia in mass, when, if strangulated by the neck of the sack, death will probably ensue.”

He therefore does not describe the operation, or say anything more about it. But he neglects to state that one great advantage which this proceeding possesses is the less danger of peritoneal inflammation following the operation. Experience has induced such distinguished men as Mr. Key, Mr. Liston, Mr. Luke, Mr. Teale, and others, to resort to this plan. Mr. Liston, after having at first discountenanced it, subsequently urged it strongly. Mr. Teale reports 32 cases in which the stricture was divided exterior to the sac; 27 of these recovered; 18 were femoral, 11 inguinal, and 3 umbilical hernia. Mr. Luke operated in 82 cases; in 57, the sac was not opened, of which 7 died; in 25 it was opened, and 8 died. Mr. Gay gives a table embracing 198 cases; the sac was opened in 125, of these, 52 died; the sac was not opened in 73, of these, 13 died. (*Brit. and For. Med.-Chirurg. Rev.* No. V. p. 167.) Now, if these results be compared with those adduced by Dr. Smith as indicating the success of the ordinary operation, they will stand thus:—

Smith,	.	.	.	.	.	42 cases, 11 deaths, against
Teale,	.	.	.	.	.	32 “ 5 “
Gay,	.	.	.	.	.	73 “ 13 “
Luke,	.	.	.	.	.	57 “ 7 “

In view of these facts, would it not have been better if Dr. Smith had fairly stated the respective advantages and disadvantages of the two methods; and devoted a page or two, if necessary, to the best mode of avoiding the risks, and at the same time of securing the benefits of the external division of the sac, instead of passing it over altogether in the hasty manner which we have pointed out?

The same question is applicable, although with less force, to his remark concerning the subcutaneous division of the stricture recommended by Guérin, of which he says: “it is, in my opinion, a dangerous and uncertain operation.” But we find that the operation has been performed several times successfully by an American surgeon, Dr. Pancoast; and we think, therefore, that it came fairly within the scope of Dr. Smith’s book. Dr. Pancoast limits its application to those forms of recently strangulated inguinal hernia, where the surgeon is so well satisfied of the state of the contents of the sac as to be willing to restore them by the ordinary taxis, if that were practicable, and where the seat of the stricture can be detected at the external ring. (*Trans. Am. Med. Assoc.* vol. iii. p. 373.)

We cannot enter into a minute examination of the author’s chapter on *Femoral and Umbilical hernia*; we must state, however, that they are, in some measure, open to the same criticisms as those which we have passed upon his remarks concerning inguinal rupture.

Respecting the pathology and treatment of the unusual varieties of hernia—the ventral, obturator, ischiatic, perineal, vaginal, pudendal, diaphragmatic, the hernia Litrica, &c.—not a word is said, excepting the casual remark, in the section on the *seat of hernia*, that hernia has been seen at some of the weaker parts of the abdominal cavity below, “and especially at the point of

exit of its arteries, as at the obturator foramen, or opening for the thyroid artery; at the sacro-sciatic notch, where the gluteal artery passes out, and also alongside of the vagina of the female, or through a laceration of the perineum of the male." (P. 404.)

The operations for *Ligature of the Iliac Arteries* are well described; and interesting statistical statements, historical facts, beautifully executed drawings, &c. accompany the descriptions.

A chapter upon *operations practised upon the Back*, including several performed for *Spina bifida*, closes the third part of the volume.

The *fourth part* is taken up with a description of *operations on the Genito-urinary organs and Rectum*.

The *anatomy* of the male organs is cursorily described; and then we are introduced to the operations practised upon them.

Quite a variety of surgical proceedings for the cure of *Phymosis* and *Paraphymosis* is unfolded to us, and each is well illustrated. The operation which Dr. Smith prefers for the relief of phymosis is *Cloquet's*, in which a director is introduced between the glans and prepuce, *by the side of the frænum*, and the foreskin divided by a bistoury. He says:—

"Frequent opportunities of testing the advantages of the plan of Cloquet having satisfied me of its value, I do not hesitate to recommend it as that best adapted to the adult; because it fully exposes the glans, and leaves little or no lateral deformity, as is frequently the case in the dorsal incision. Should the existence of chancres near the frænum, or other circumstances, prevent its performance, and compel the adoption of the dorsal cut, I should prefer excising the two flaps and uniting the mucous membrane and skin at the line of the corona, so as to leave the glans permanently uncovered." (P. 481.)

The important operation of *Catheterism* is rather too hastily disposed of. Under ordinary circumstances, the urethra being of the average capacity, free from undue sensitiveness, and from obstruction of any kind, the introduction of a catheter into the bladder is a very simple affair, requiring nothing more than gentleness on the part of the surgeon; so that any young man, of ordinary address, who has spent a week in a surgical hospital, can accomplish it. But in the cases which most frequently require the operation, the urethra is not altogether in a normal condition, and more or less difficulty is experienced. For such cases, for which alone assistance is sought, the book before us does not furnish the detailed advice, and the numerous and varied expedients which are often demanded.

Six pages and numerous drawings are devoted to *Strictures of the Urethra*. A few remarks are first made upon the *pathology* of strictures, the *seat* of the obstruction, its *diagnosis*, &c. Then the several plans of treatment are described, briefly; by *dilatation*, by *incision*, internal and external; and by *caustic*. Finally, the consideration of the subject is concluded by a few general observations, expressive of Dr. Smith's views as to the comparative merits of the different modes of treatment. We quote the last sentence:—

"In the treatment of old and dense strictures, I should prefer, therefore, the treatment by cauterization; in those which are small and recent, the employment of bougies for the purposes of dilatation; but in impervious strictures, or in a bad case of retention of urine, I would resort to Physick's stylet." (P. 497.)

We regret to say that, in our judgment, this important subject is very imperfectly treated by Dr. Smith. We believe that we speak the sentiments of the vast majority of surgeons, not only in this country, but abroad also, in saying that the treatment by *dilatation* is more generally applicable than any

other, and that it is sufficient for the cure of most cases of stricture of the urethra. It is a method, however, which requires considerable judgment on the part of the operator, and therefore it should have been fully described in the book before us. We will quote what Dr. Smith says concerning it:—

“As the dilatation of a stricture can only result from a force which acts from within, it is evident that this mode of treating the complaint is only applicable to such as are sufficiently free to permit the entrance of the bougie, and sufficiently flexible to permit of their being distended. Dilatation is therefore usually accomplished by first passing a large bougie down to the stricture, in order to show its distance from the *fossa navicularis*; then passing one sufficiently fine to penetrate it, and then another, each of them being allowed to remain a moderate length of time, when they should be withdrawn, and subsequently replaced by those of greater bulk, until at last the stricture is sufficiently distended to permit the free passage of the urine.

“Bougies made of the bark of the *ulmus fulva* have been suggested, within the last few years, by Dr. Waters, of Maryland, as especially advantageous in dilating strictures; but personal experience has shown me that they are brittle, dangerous, and have no advantage over the bougie of gum-elastic. Those of gutta percha are also objectionable, and have been broken off in the canal.” (P. 491.)

This is all that is said concerning dilatation, except that, in the general remarks upon the treatment of stricture, we are cautioned against supposing that the disease is cured as soon as we have succeeded in introducing a large catheter, because the passage will contract again; therefore, we are urged to continue the use of the bougie for a long time.

Now, we would ask, is anything but mischief likely to follow, if a surgeon should attempt to dilate a stricture of the urethra by following strictly the precepts which Dr. Smith has inculcated in the above quotation? For, from the absence of all qualification and caution on this point, we might fairly infer that the whole difficulty, so far as the mere dilatation is concerned, is to be overcome at a single sitting. We are told simply to introduce bougie after bougie, of constantly increasing diameters, allowing each one to remain for a moderate length of time in the stricture, until a free stream of urine can pass along the urethra. Dr. Smith advises no preparatory treatment by rest and regimen, or by medicinal aid, for the purpose of subduing any unusual or undue irritability of the system, or of the part; he does not tell us that, after we have succeeded in passing a bougie just large enough to enter within the stricture, we cannot sometimes retain it there more than a few moments, in consequence of the excessive pain which its presence occasions; he does not say how long the instrument may be permitted to remain; nor does he furnish us with criteria by which we may ourselves judge; for the expression, *a moderate length of time*, may mean a minute, or an hour, or a day; he does not hint that severe nervous symptoms not unfrequently follow even the prudent use of the bougie, nor does he, of course, advise what is to be done to relieve them; he does not guard us against the danger of creating a false passage; he does not indicate the length of time which should be allowed to pass before the introduction of an instrument should be again attempted; nor does he signify whether the patient is to be confined to bed or to the house, during the entire treatment, or to be allowed to spend his time as usual, in walking, working, riding, &c.; whether he is to be dieted, or to be suffered to eat whatever he chooses.

That there are two modes of dilatation practised, Dr. Smith does not mention, viz., one gradual, occupying some weeks, and the other accomplished sometimes in a few days; neither does he allude to the modification of the

ordinary method, by which the bougie is made to bear against the *anterior* face of the stricture, instead of exerting an eccentric pressure around its channel, until, by repeated applications of the instrument in this position, at proper intervals, the obstruction is gradually worn away by the "*tunnelling process*," as it is called. Nor is the application of *external pressure*, to aid the operation of the instrument acting from within the canal, noticed by Dr. Smith.

As to the *means* by which the dilatation is to be effected, we can only infer, from one of the sentences above quoted, for the author does not distinctly advise any particular instrument, that he prefers the *gum-elastic bougie*, which, we suspect, is generally regarded as far less efficient than the common silver catheter, or any of the metallic bougies. We find no allusion made to Arnott's fluid dilator, nor to the metallic dilators, nor to the ingenious instruments of Mr. Wakley, described and figured in the *Lancet*, vol. i. 1851—a series of silver and gum-elastic tubes, increasing very gradually in diameter, of which the smallest silver tube is passed through the stricture, the next larger slid down over the first, &c. &c. until a sufficient effect is gained; the operation to be repeated at different sittings, and in the intervals a gum-elastic tube to be left, if necessary, in the bladder.

In short, we repeat that no information is to be gleaned from Dr. Smith's exposition of the mode of treating stricture of the urethra by dilatation.

Equally brief and imperfect are his remarks upon the treatment by *incision*, concerning which there should have been, we conceive, even more circumspection, minuteness of direction, and completeness of explanation, than with reference to the mode just spoken of, because there is much greater danger attending the former than the latter. We cannot, of course, expect in a treatise, so general and comprehensive as Dr. Smith's, that the numerous subjects treated of will be unfolded and developed as thoroughly as should be done in monographs. But we certainly have a right to look for something more finished than the author's commentary upon the treatment of stricture by *incision*. He says of it that it may be either *internal* or *external*. Of the former, he writes:—

"As some strictures are too dense to admit of dilatation, or so tight, or so situated as to render it difficult or impossible to enter them, it has been suggested that it would be preferable to cut through the induration by means of a lancet applied so as to act through the canal itself. Such an incision is especially demanded in cases where it is required to evacuate the bladder promptly, or to those where the resistance forbids the hope of any advantage from dilatation."

And farther on, after selecting only Dr. Physick's stylet catheter, and Dr. Chew's modification of it, as the instruments which are "*especially good*" for the performance of the operation, he directs how the instrument is to be forced through the obstruction, and adds that, after this is effected, a catheter must be introduced into the bladder and allowed to remain there until the incisions have healed, and that subsequent contraction is to be prevented and permanent dilatation maintained by the constant use of bougies. (Pp. 491–25.) Beyond this, we believe there is nothing on the subject of treatment by *internal incision*.

Dr. Smith says that the incision is especially demanded when it is requisite to evacuate the bladder promptly, or when the resistance of the stricture forbids any hope of advantage from dilatation. (P. 492.) Any one of the ordinary methods of puncturing the bladder is certainly more *promptly* executed than the cutting through a stricture, if it be sufficiently dense and extensive to warrant incision at all, by internal division. And, as to the expediency of the attempt,

we suspect that the general voice of the profession would be in favour of opening the urethra externally, posterior to the stricture, or of the recto-vesical puncture, rather than of attempting to reach the bladder by dividing the stricture internally, if the obstruction be behind the triangular ligament of the urethra. It is certainly much safer to limit the internal division of stricture to those cases in which the obstruction is situated within the straight portion of the canal, and the nearer it is to the orifice of the urethra the more readily and safely is it divided. If there is danger of making a *false* passage, and otherwise injuring the walls of the urethra, by the simple catheter or the bougie, while treating a stricture, there surely is greater risk of so doing with a cutting instrument. And this liability is very much increased when a curved instrument is used in the posterior portion of the canal; although, perhaps, Dr. Chew's stylet catheter guards against this danger better than any other of the curved instruments.

Dr. Smith very justly regards this operation as an adjuvant merely, directing that the catheter or bougie be properly employed afterwards.

Dr. Smith dismisses the subject of *external incision* of the stricture in very few words:—

“In some cases of stricture where it was impossible to pass an instrument, and especially in patients who had stricture in advance of the bulb, the older surgeons made a button-hole incision from without inwards.”

He then directs how this incision is to be made, and indicates the subsequent treatment. He merely alludes to the operation which has, within a few years, given rise to so much discussion in Great Britain, as “that which has been so highly lauded by Mr. Syme, of Edinburgh;” but he says not another word concerning it. There can, however, be no question that *when it can be performed in the mode directed by Syme*, this is a much safer and easier operation than the other, for it requires that the incision shall be made upon a grooved staff previously passed through the stricture; whereas, in the ordinary proceeding, the instrument is introduced as far as the obstruction, and the incision is practised behind the latter upon the unstricted part of the canal without any guide save the eye, and occasionally the distended urethra behind the stricture. Mr. Syme's operation, therefore, should have been described.

But in the course of his observations upon incision, both internal and external, Dr. Smith does not hint at there being any dangers connected with the operation. Yet we know that patients have been endangered, and have even died in consequence, directly and indirectly of incision, particularly of the external incision, from various causes; *e. g.* from hemorrhage; from urinary infiltration; from abscess of the perineum and within the pelvis, ending in death from hectic fever; from pyæmia, &c. During the recent and more or less acrimonious discussions between the champions and the opposers of the operation so highly recommended by Mr. Syme, many fatal cases following this procedure, under the most skilful hands, have been published. (See the *London Lancet*, 1850, 51, 52.)

For the application of *caustic* to the stricture, Dr. Smith recommends that a large catheter, open at both ends, be passed down as far as the obstruction, and within this a smaller one from the urethral extremity of which the caustic, either caustic potassa or the nitrate of silver, projects about two lines; the caustic is permitted to remain a short time in contact with the stricture, the alkali *thirty seconds*, the lunar caustic from *one to three minutes*; then the smaller canula is withdrawn, and sweet oil or a solution of chloride of sodium, according to the caustic substance used, is injected through the larger instru-

ment. This operation is to be repeated at the end of from three to eight days, and again as often as may be necessary. He does not attempt to establish the comparative merits of the two substances, or to assign to each a group of cases upon which it exerts the best influence.

Dr. Smith thinks that the good effect of the caustic is due to the production of an *eschar*, which induces "a certain amount of action in the surrounding parts, which increases the activity of the absorbents and hastens a permanent cure," (p. 495;) and he states that, in the employment of the caustic, "the principal object is to retain the caustic in contact with the constricted part sufficiently long to produce an *eschar*." (P. 498.)

That the caustic, particularly the *potassa*, does sometimes produce an *eschar*, with consequent loss of substance, we do not doubt; but we do not think that such a result is generally sought for by those who employ it in the treatment of stricture, nor do we believe that this is a desirable effect of its action. For the mucous membrane must be sacrificed as well as the subjacent deposit; and, as Dr. Smith well observes, "the ulceration resulting from the separation of the *eschar* always tends to union by granulation rather than by actual contact, as is the case in incisions," (p. 495;) now a considerable degree of *contraction* always accompanies the process of healing by granulation, by which the canal of the urethra will almost inevitably be made smaller than before, and by a more unyielding cicatrix. But it is not at all improbable that the state of active congestion or inflammation excited by the caustic may occasion such a modification of vitality in the fibrinous deposits beneath the mucous membrane, and in the latter itself, as to effect their solution and absorption just as we often see an indurated lymphatic gland, or a hard and elevated spot in the cellular tissue, become softened and restored to its normal condition by the action of a blister, and this without any destruction of vitality or loss of substance. Another very important and constant effect of the caustic, when delicately applied to the urethra, and Dr. Smith has strangely overlooked this, is to diminish the morbid sensibility of the lining membrane, so that a stream of urine can be passed larger than previously, although the actual capacity of the canal, judged of by the size of the bougie which can be introduced, seems not to have become increased. On these two effects of the caustic, then, the diminution of sensibility and irritability, and the gradual absorption of the adventitious deposits, depend, we suspect, the good accomplished by its employment in stricture, and not as a general rule, certainly, upon any actual *escharotic* action.

Abundant materials for a well-digested chapter on the treatment of stricture of the urethra certainly exist, and the space required is not very large in order to exhibit the mode of performance, the comparative merits, and the individual applicabilities of each, its dangers and their antidotes. We do not think that Dr. Smith has, by any means, produced such a chapter.

We are compelled to pass hurriedly along in our notice of many subjects, and to permit some to go without remark; not intending, however, to disparage thereby the manner in which they have been discussed by Dr. Smith. We will merely call attention to the numerous operations upon the *Spermatic cord* and *Testicles*, which are described and beautifully illustrated; to the very full and fair account given of *Stone in the Bladder*, with the various methods of treatment, the accidents which may attend or follow the operations, &c. &c. In consequence of the facility with which *lithotripsy* may be performed, Dr. Smith does not regard the operation of lithotomy as justifiable in the female.

A number of pages and drawings are allotted to the consideration of *Venico*.
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vaginal Fistula. This affection, so annoying to the patient and so troublesome to the surgeon, has attracted a good deal of attention on the part of many of our countrymen; foremost amongst whom stand Dr. Hayward, of Boston, Dr. Mettätier, of Virginia, and Dr. Sims, of Alabama. The operations practised by these gentlemen resemble each other in requiring that the edges of the fistulous orifice shall be freshened by excision, and then united by means of sutures; but they differ in the kind of sutures used, and in the mode of their application. Dr. Hayward employs the ordinary interrupted suture; Dr. Mettätier the same, the threads being of lead, however, instead of vegetable or animal material; and Dr. Sims a modification of the quilled suture, with fine annealed silver wire. The latter gentleman has studied diligently all the steps of the operation, and has contrived numerous instruments adapted to each. These proceedings are quite fully detailed by Dr. Smith, so that his chapter on vesico-vaginal fistula is a very instructive one.

One source of failure in all these operations is the unusual strain which bears upon the mucous membrane, when the edges of the wound have been approximated. It is a little surprising that a simple expedient has not suggested itself to the minds of those who have so often operated for the cure of this affection, by which the difficulty alluded to may be in a great measure overcome. We refer to the making of incisions through the mucous membrane, at such points as will permit the necessary yielding of the tissue. This constitutes the *autoplastie par glissement*, or *par locomotion* of the French surgeons; and it has been advantageously applied to many operations, as, for example, to some practised upon the eyelids, by Dieffenbach to the treatment of laceration of the perineum, as noticed by Dr. Smith in his account of this accident (p. 551), and by Dr. Warren to the operation of staphyloraphy. Indeed, this expedient constitutes an important feature in the operations performed by Jobert, for vesico-vaginal and recto-vaginal fistula; he pares the margins of the fistula, unites them by interrupted suture, and then makes incisions through the mucous membrane near to the closed wound, sufficiently extensive, and of such forms as to allow the membrane to slide a little on each side of the fistula, or, in other words, to allow its two margins to approach each other, and thus to permit of the filling up of very considerable deficiencies. (Jobert, *Traité des Fistules*.)

There are two modifications of vesico-vaginal fistula, which Dr. Smith has omitted to describe. One, in which the fistulous orifice opens into the canal of the cervix uteri; the other, where a portion of the neck of the uterus and the vagina have been destroyed at the same time, and by the same cause as the basfond of the bladder, thus creating a *vesico-utero-vaginal* fistula, in contradistinction to the first, which is a *vesico-uterine* fistula.

The *vesico-uterine* fistula was described by Madame Lachapelle, afterwards by Stoltz, of Strasbourg (*Mémoire sur les Perforations du Col de l'Uterus et les Fistules Vésico-utérines et Vésico-abdominales à la suite de l'Accouchement*), and during the last year by M. Jobert de Lamballe; this last account, however, was published after Dr. Smith's book, so that, of course, he had it not to refer to. In this affection, the fistula is seated in that portion of the bladder which rests upon the neck of the uterus, and in the latter, commonly below the point of the peritoneal reflection, so that the abdominal cavity is not opened. It is produced in consequence of the pressure of the child's head during parturition. Owing to its secluded position it is easily overlooked; it must be ferreted out by means of a speculum introduced into the vagina, by which a careful examination of the os tincæ can be made, and the urine can be seen trickling from it; but the surest way of arriving at a positive diagnosis

is to pass a catheter or a sound into the cervical canal, and another through the urethra into the bladder, where the two will come in contact, if the fistula exists. The seat of the fistula having been discovered in the anterior wall of the canal of the cervix, it is yet a difficult matter to subject it to any kind of examination; but M. Jobert has overcome this difficulty. He found, by repeated anatomical investigations, that the cervix uteri could be slit up as high as the line of the attachment of the vagina, without opening the cavity of the abdomen, and without dividing any considerable vessel, provided the incisions be made laterally along its commissures. He therefore recommends, for the treatment of this fistula, that the neck of the womb be drawn down by means of volsellæ, and that, with strong scissors, an incision be practised, in the way described, through the neck on each side; thus an anterior and a posterior flap are formed. The anterior flap can now be thrown upwards, and the fistula will be exposed to view. Then, the edges of the false passage through the neck of the uterus and the bladder must be freshened by the knife, and the margins of the wound, now resembling a simple incised wound, must be accurately approximated by sutures. If the wound becomes firmly closed, the fistula is, of course, cured. But if complete union does not take place, M. Jobert resorts to another expedient. He makes raw the whole of the canal of the cervix below the fistula, and freshens the edges of the anterior and posterior flaps of the neck of the uterus, and then unites these flaps by sutures. Thus the communication between the interior of the womb and the vagina is entirely obliterated, so that the menstrual blood, instead of escaping by the vagina, now finds its way through the fistulous opening into the bladder, and escapes *via* the urethra. M. Jobert describes very fully a case in which he succeeded perfectly in curing a vesico-uterine fistula by the first of the operations here mentioned.

Sometimes, as in the case reported by M. Stoltz, the posterior wall of the cervix uteri, as well as the anterior, is implicated to a great extent; but inasmuch as the peritoneum dips down between the vagina and rectum much lower than in front between the vagina and the bladder, there is very great danger that the abdominal cavity will be opened. Such was actually the case in the instance described by M. Stoltz, and the patient of course died.

In the *vesico-utero-vaginal* fistula, there is not a simple fistula through the anterior wall of the neck of the womb, but this part is largely destroyed, together with that portion of the vagina which is in relation with it. There is consequently a large chasm, through which the urine escapes, partly into the cervical canal and partly directly into the vagina, having a sort of pocket behind, formed of the remains of the cervix uteri. The operation which M. Jobert employs to relieve this great evil, is the same in principle as that already described. The neck of the uterus is drawn towards the vulva, as far as the abnormal adhesions will permit, the margins of the whole fistula are pared and approximated by sutures, and the posterior wall of the neck of the womb, its surface having been first made raw, is brought forwards and attached by sutures to the remains of the vesico-vaginal septum so as to fill up the gap. Thus the cavity of the uterus is shut off from all communication with the vagina. An important step in this proceeding consists in making incisions of varying extent, and at different parts of the vagina, to facilitate the approximation of the edges of the fistula. M. Jobert reports minutely *four* cases treated in this manner: *three* were cured, and *one* died of peritonitis, on the fifth day after the operation. (*Traité*, pp. 56-122.)

The remaining pages of this part of the volume are devoted to operations practised upon the *Uterus* and *Ovaries*, and upon the *Rectum*. The author's

remarks concerning *Ovariectomy* are quite full and fair; the different operations are well described; statistics of their results are also quoted; and a variety of important details is given. After stating the opinions of several distinguished surgeons, as to the propriety of an attempt to remove ovarian tumours by operation, Dr. Smith remarks:—

“From an examination of these opinions, and they are certainly those of great professional worth, and might be readily augmented, did my present space permit, we are, I think, justified in concluding that the majority of ovarian tumours cannot be controlled by medicine; that their natural course is to terminate fatally in about five years; that tapping them is attended with considerable danger; and that, when they create great distress to the patient, and the latter is fully informed of the possibility of failure or the chance of death, such tumours are proper subjects for an operation.” (P. 576.)

Before leaving this part of the book, we would beg to call Dr. Smith's attention to the fact that he has omitted all notice of the various modes of *Puncturing the Bladder*.

The *fifth*, and last part of Dr. Smith's volume embraces descriptions of operations on the *Extremities*. It includes an account of *inverted Toe-nail*, and the modes of treating it; of *Paronychia*; *enlarged Bursa*; *painful condition of the Nerves*; *Varicose veins*; *Tenotomy*; *Ligature of arteries*; *Resections*, and *Amputations*.

Dr. Smith entertains but an indifferent opinion of most of the operations performed for the cure of *varicose veins*. The only plan of treatment which he has thought proper to describe is that pursued by Dr. Watson, of New York, and published by him in an able paper in the *American Journal*, vol. v. N. S. It consists in effecting compression upon the veins by means of pieces of wax bougie secured by rollers. Dr. Smith concludes his remarks on this affection as follows:—

“After the references already made to the treatment of this complaint, the reader must be aware that I deem little more requisite in the way of an operation upon varices, than such pressure as can be obtained by pursuing the judicious plan advised by Dr. Watson. It, or the laced stocking, or both, are capable of accomplishing quite as much in the treatment of varices of the limbs, as either caustic, excision, incision, perforation, or any of the numerous other plans usually referred to.” (P. 609.)

In his account of *Ligature of the arteries of the extremities*, Dr. Smith points out the anatomical relations of these vessels, and describes the most approved methods of tying them.

“We think it not a little surprising that in this whole book, which professes to express the opinions of American surgeons, and the state of American surgery, not a word is said concerning the revived plan of treating aneurism by *Compression*. Dr. Smith is aware that several of our surgeons have resorted to it successfully, and that the subject has been urged upon the consideration of the profession through the National Association; and we cannot doubt that he regards it, whenever it seems applicable, as infinitely preferable to the other mode of treatment, which he so fully describes. We had expected to find it well explained, with illustrations of the best instruments to be employed, and an exposition of the statistical results of the treatment.

Resection of bones receives its due share of consideration. On this subject we have already offered some remarks, in which we noticed some important omissions on the part of Dr. Smith. The plates introduced to illustrate this part of the treatise are numerous and well executed, and the operations described embrace all the prominent ones.

With regard to Dr. Smith's exposition of *Amputation*, we have only to say that he follows the French authorities chiefly, than whom there can be no better, so far as the performance of the operations is concerned. The cases demanding this last resort, the different modes of amputating, the dangers attending the removal of the part, the subsequent treatment, &c., are all discussed. This portion of the book may be referred to with profit.

We have now finished our task. It has not been possible for us to examine in this review, more than a very few of the most important subjects discussed by Dr. Smith, which we have selected as fair specimens of the whole. We have endeavoured to exercise a spirit of candor and impartiality in our judgment of the book. And while we have seen some errors, and taken note of many omissions, we have also observed a great many excellences; so that we can cheerfully commend the treatise as presenting a valuable and useful compendium of operative surgery, suitable for study or reference.

We cannot, however, without considerable qualification, admit that it is "a system of operative surgery based upon the practice of surgeons in the United States," as the title-page sets forth; we find a great deal more of foreign than of domestic material contained in it. But, as we have already hinted, we do not think that this is by any means an objection to the book, or that its value is at all diminished thereby; quite the contrary; for, by reason of a great many circumstances which are too well understood to occasion surprise, much less has been done for surgery in this country than abroad. On the other hand, we should have supposed that, had Dr. Smith used the same diligence in obtaining the experience of *all* our prominent surgeons, as he has manifested towards Dr. Warren, of Boston, and the late Dr. Horner, of this city, the amount of indigenous matter would have been much augmented. There are many of our surgeons of distinction, of well-known ability and learning, who are not so frequently alluded to, or so well represented in the book, as might have been reasonably anticipated. As it stands, however, the volume before us is a valuable addition to our endogenous surgical literature; because, independent of other excellences, it is a repository of numerous and important facts of historical as well as of present practical interest, which, but for some such storehouse, would be comparatively unknown, and might be forgotten.

In conclusion, we must express our sincere hope that Dr. Smith's labors will be rewarded by a demand, in due time, for a second edition of this treatise, in which the faults we have noticed, and perhaps others which his own observation will detect, now that the toils of composition and the annoyances and distractions of preparation are over, may be easily corrected, and such improvements and additions be made, as his progressive experience and acquirements can supply. We would also suggest that the style of the book is susceptible of considerable amendment, as will be evident to our readers from the numerous quotations which we have herein introduced. F. W. S.

BIBLIOGRAPHICAL NOTICES.

ART. XII.—*Transactions of the Medical Society of the State of New York, at its Semi-Annual Meeting, held in June, 1852, at the City of New York; and at its Annual Meeting in the City of Albany, held February, 1853.* Albany, 1853: 8vo. pp. 352.

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The Transactions of the Illinois State Medical Society, for the Year 1852. Peoria, 1852: 8vo. pp. 94.

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Transactions of the Medical Society of the State of North Carolina, at its Third Annual Meeting in Wilmington, N. C., May, 1852. Wilmington, 1852: 8vo. pp. 98.

The Transactions of the Third Annual Meeting of the Medical Society of the State of Georgia, held in the City of Augusta, April, 1852. Penfield, 1852: 8vo. pp. 100.

Proceedings of the Medical Association of the State of Alabama, at its Sixth Annual Session, begun and held in the City of Selma, December 13-15, 1852. Mobile, 1853: 8vo. pp. 166.

THE numerous volumes, comprising the *Transactions* of various State Medical Societies, which have been published within the last few years, may with propriety be assumed as an evidence of the beneficial influence exerted upon the profession throughout the greater portion of the Union by the American Medical Association. Through its earnest and repeated recommendation, most of the recently formed State medical organizations have been brought into existence; while not a few of those of older date have by its influence been roused to renewed activity, and in a direction better calculated to elevate the standard of the medical profession, and to enlist all its members in the investigation of the nature, causes, prevention, and cure of disease, and in the communication of the results of this investigation for the general good.

We confess that we have never had any very sanguine hope that the American Medical Association, viewed in the light of a mere legislative body, would be able to effect all the reforms desired in our profession; inasmuch as it has neither power nor influence sufficient to *exact* a general obedience to the laws it may enact to regulate the terms of admission into the profession, and control the conduct of those who assume its duties and responsibilities. We nevertheless believe that the Association has already exerted a powerful agency for the benefit of our profession, and that in time it will be able to accomplish all the good that could reasonably have been anticipated from it by its projectors. In the accomplishment of its ultimate objects, one of the most certain means within its scope is the regular organization it is gradually effecting of the legitimate members of the profession throughout every section of the country. By such an organization, having one common interest in view, and in its accomplishment presenting a unity of feeling and of action, many desirable reforms

in medical education may be obtained, and the provisions of a judicious code of professional ethics rigorously enforced.

It is not our intention to enter into a detailed examination of the respective contents of the several volumes of *Transactions* indicated at the head of the present notice. To do justice to the more prominent of the papers embraced in them would occupy more space than we can at present conveniently spare. We refrain also from offering any opinion as to the comparative value of the *Transactions* of the different Societies. They all present useful contributions to the general fund of medical truth. If we cannot always coincide with the deductions drawn from the facts and observations recorded in the volumes before us, we, nevertheless, are thankful for the facts and observations themselves, whether they are to be viewed as mere confirmations of those already in our possession, or as throwing new light upon certain points connected with the etiology, the pathology, or the therapeutics of the maladies incident to the different sections of the United States.

Each volume of *Transactions* contains an Address from the President of the Society, delivered either at the opening or closing of its annual session. These addresses are marked throughout by good sense, and by the correct views they express in relation to the importance and difficulties of our profession, and the necessity there is that those who would assume its duties and responsibilities should possess the proper intellectual and moral qualifications. A sufficient preliminary, and thorough professional education is insisted upon; while they nearly all concur in opinion as to the insufficiency of the present system of medical instruction in this country, and the imperative demand for some restriction to the facilities which now exist for obtaining the degree of doctor in medicine by persons altogether unfit to be safely intrusted, as practitioners, with the health and lives of their fellow-creatures.

In several of these addresses, the impositions of quackery, and the folly and delusion of its followers and advocates are dwelt upon at some length. While we hold it to be the duty of the physician to endeavour, by every means within his power, to enlighten the public mind upon this subject, we at the same time fear that, by introducing it too prominently into the discourses which are intended expressly for the members of strictly professional Societies, we lower, in some degree, our own dignity, and augment the importance of the legion of quacks that infest our land.

The character of the matter embraced in the several volumes of *Transactions* now before us varies considerably. In some, we have reports on the several branches of medical science, or on subjects of interest to the profession as a body; in others, papers on special diseases, or on some point of interest embraced within the domains of surgery or obstetrics; the details of cases or of surgical operations; and, finally, reports upon the vital statistics, medical topography, and prevailing epidemic or endemic diseases of particular sections of country. The whole forming a mass of matter rich in materials adapted to improve our acquaintance with disease, and to increase our skill, according as this may be directed to its prevention or removal.

The study of the diseases of each locality in immediate connection with its medical topography, and the character and pursuits of its inhabitants, is perhaps one of the best means of arriving at correct views in relation to the etiology of disease, and the modifications that it may undergo from the agency of causes of a special or local character. It is desirable, therefore, that every encouragement should be given to the preparation, by the several county and district Societies, annually, of medico-topographical reports of the several portions of country embraced within their boundaries. In Pennsylvania, a partial attempt has been made to investigate the relationship of diseases to the prevailing geological formation of each locality. From the few facts already collected, it is impossible to determine what may be the results of the inquiry when a more extended and continued series of observations shall have been made throughout every portion of the State, so that we shall have the means of comparing the diseases of the different geological regions with each other, for a number of successive years. The investigation is in every point of view an interesting

one, and well worthy of the attention of the several County and State Societies that are now in existence or may hereafter be organized.

A somewhat striking peculiarity in the several volumes of *Transactions* before us is the predominance of reports, papers, and histories of cases, of a strictly surgical character, over those in the other branches of the healing art. Surgery, we are aware, has been cultivated with great success in our country; but why it should so exclusively have occupied the attention of our several State Medical Societies it is difficult to understand. In many particulars, surgical pathology unquestionably claims a more close, thorough, and cautious investigation than it has yet received, and presents a field in which those qualified for its culture may reap a rich harvest. In the volumes before us, it is chiefly, however, to the remedial and mechanical department of surgery that attention is directed.

The main objects of County and State Medical Societies should be to cultivate a friendly intercourse between all the members of the profession located in the same neighbourhoods, founded on a strict observance of the recognized code of medical ethics; to discourage and discountenance the entrance upon a medical pupillage of those who are unqualified by the want of capacity and preliminary education, and moral character; and to aid, by every means within their power, in the establishment of a full and efficient system of medical instruction and examination, as an essential preliminary to admission to the doctorate. By these means, they will be instrumental in elevating the character of the regular physician in the estimation of the public, and of subserving, in the most effectual manner, the individual interests of their members, while at the same time they promote the best interests of the profession throughout the country. County and State Medical Societies may also be made powerful instruments for the development and propagation of medical truth, by directing the minds of their members to a cultivation of the opportunities afforded to each for the investigation of the causes, phenomena, and progress of disease, and the effects of remedial agents in controlling its violence and arresting its course; by the collection and proper arrangement of the results of the observations of each, and by presenting them as a contribution to the general fund of medical knowledge.

Hence, in the published *Transactions* of these Societies, reports and papers on the subject of medical ethics, medical education, the registration of births, marriages, and deaths, vital statistics, public and private hygiene, and similar topics, may with propriety be admitted, in common with reports and communications on the medical topography and diseases of different localities; on the pathology and treatment of particular forms of disease; on the curative properties of certain articles of the *materia medica*, or of our indigenous plants, founded upon personal observation; but no communication of a purely hypothetical or controversial character should be allowed to appear. In the medical journals, essays to prove by argument the existence of miasma as the cause of fever; theoretical disquisitions on the changeability or unity of disease; and hypothetical views as to the cause of life and vital heat, may find a fitting place, but from the *Transactions* of our State and County Societies they should be altogether excluded. These *Transactions* must be confined strictly to a record of facts and accurate observations, with such general conclusions as the reporters may believe to be legitimately deduced from them, or their value will be materially impaired.

We had not intended to notice particularly any of the reports or communications contained in the several volumes whose titles we have placed at the head of this article, but merely, in general terms, to recommend the *Transactions* to the attention of such of our readers as may not have met with them, as an indication of the extent to which the organization of the medical profession of our country has been effected, and as an evidence of the healthful fruits to which that organization has already given rise. We have, however, been so much pleased with the good sense which distinguishes the report of the Committee on Medical Ethics of the Kentucky State Medical Society, the excellence of the remarks contained in it, and the plain but clear manner in which these are expressed, that we must be permitted to present one or two extracts from it.

Of the Duties of the Public to the Profession, the report speaks as follows:—

“While physicians owe so many obligations to the public, to their patients, and to each other, the public and their patients have duties to perform towards them, which they cannot rightfully shrink from performing any more than can physicians from fulfilling theirs. If the physician must be ever ready to do offices of kindness and beneficence, if the public censure him, and have the right to censure him for not doing them, the public, on the other hand, should uniformly yield him that consideration and respect which the constant discharge of his important duties justly demands. They should not, as is so often done, through thoughtlessness or malice, throw impediments in the way of his usefulness, by sneers and ill-natured remarks; but should aid him in his endeavours to promote the welfare of communities, and to restore the health of his patients.

“A notable instance of opposition to this sentiment is seen in the statutes of most States. The law demands of the physician and surgeon that they shall bring to the treatment of every case submitted to their care, the greatest amount of skill and knowledge; and at the same time denounces with severe penalties the only method by which this knowledge and skill may be obtained.

“It often happens, if the physician steps forth from the performance of his accustomed daily duties to speak warningly to the people of the imminence of an epidemic, or to assure them that in its slighter forms it is already upon them, that he is assailed as a timid alarmist; his motives are maligned, and his standing, for a time, at least, is lowered, from the fear that his publication may hurt the business, or retard the growth of the place! Such treatment is surely reprehensible; such a people scarcely deserve to be warned of danger.

“The same disingenuous, ignorant, and persecuting spirit often pursues the physician when he is engaged in the treatment of a case of disease. The patient, while in full health and in the enjoyment of all his powers of judgment, has, perhaps, chosen his medical attendant; after he has been prostrated by sickness, and has become peevish and fretful towards those most dear to him, busybodies and intermeddlers frequently interpose and urge him to discharge his preferred adviser, and to choose some other. This is unjust to the physician and hurtful to the patient. His mind, enfeebled and anxious, is totally unfitted to make a selection, were it necessary; his hope and confidence in his physician, so salutary as a means of restoration, are broken; he is put upon the rack of doubt and fear; and the urgency and peril of his case are often greatly augmented by this play upon his imagination. This intermeddling sometimes springs from motives of unquestionable kindness towards the sick, but it is a kindness which sometimes kills. Its injustice to the physician is palpable and needs no comment.

“We have known a weak and nervous patient, a lady, harassed and worn down to tears, and almost to convulsions, by debating with her whether her medical attendant, her own and her husband’s unbiased choice, should not be dismissed; the gravity of her case was exaggerated to her; the opinions of her physician misquoted and perverted; her husband, distressed and fearful about her, was reduced to the torments of doubt and hesitation; and all this was done to foist into favour the wonders of homœopathy, which, in the presence of such a case, is as useless as sounding brass. Decisive interposition by the attendant physician rescued the poor sufferer from the eager debates of over-zealous friends; encouragement was offered, and confidence and hope were again restored, and took the place of doubt and despair, which, had the bad counsels of irresponsible and presuming friends obtained, would speedily have terminated in death. Similar examples are of frequent occurrence, and the people should be informed of the hurtfulness, injustice, and immorality of such conduct. We hope to see the day when this kind of interference will be rebuked by physicians and people like any other impertinence, and be, indeed, considered indecent and scandalous.

“The opposition made to the physician, especially in cases of great danger and complexity, harasses his mind, wearies his temper, and often causes him to miss the truth he so anxiously desires to seize, and which, once gained, would safely guide him through the mazes and intricacies of the disease.

"The intermeddling zeal with which physicians are beset by the friends and visitors of the sick to try this or that favourite remedy of theirs, is another mode of insult and injury to them and their patients. The medical attendant should be left to the free exercise of his own judgment and skill, and knowledge of the case, and not be worried by gratuitous and silly advice. If additional counsel be deemed requisite, let another physician be called to consult with the attendant.

"The unwarrantable liberty taken with the reputation and opinions of physicians, by those utterly incompetent to form correct notions of medical subjects is another form in which the people exhibit their want of respect for the profession. The character of a medical man is often assailed and traduced by the partisans of another, that their favourite may, by contrast, be exalted. Gratitude to the physician who has rendered important medical service to a family, or to an individual, is a praiseworthy feeling, and we are pleased to know that it is not uncommon. This sentiment, in part, at least, frequently causes the contrasts which are drawn between physicians. But gratitude may be felt to one without making it necessary to stigmatize and undervalue another. The friends of the latter feel a like gratitude towards him. Debate and misrepresentation about the comparative merits of the two, are almost sure to result; and much of the unkindness and bickering in the profession are thus brought about by those who do not belong to it.

"Another violation of duty to the profession is the prescribing for the sick by non-medical persons—even after the employment of a regular medical adviser. The common habit with some persons out of the profession, of giving advice and medicines in cases which present the appearance of only slight ailment or disorder, and before even the family physician has been called, is one full of mischief. Many cases, of little importance in themselves, have thus been aggravated. Many grave ones are misapprehended; they may exhibit a mildness which is only the gentle breathings of a fierce and smothered storm; the uninstructed eye cannot perceive this. The physician is often appealed to after serious injury has been done by ignorant interference; or after the most precious period for medication and cure has passed away. Nevertheless, all responsibility is cast upon him; and not unfrequently he has to bear the faults of those who have stolen from him the golden opportunity of doing good. But a worst fault, if possible, of these medical amateurs, is that of secretly prescribing while the patient is under the treatment of his physician. It is absurd in the patient to be taking medicines from two different sources at once. Yet it is often done; and it frequently requires much steadiness of purpose and some moral courage to resist the importunities of these self-constituted doctors. They press their doses with so much kindness, make such bold assertions of their infallibility in curing, and, at the same time, give the comfortable assurance that they will, at least, do no harm, that one of infirm purpose will readily yield to the soft blandishments of these good Samaritans. But while this is doing, the plans of the physician are thwarted; the operation of his medicines interfered with; and confidence in him is weakened. Very often the worst injury results. And yet, year after year, the sick subject themselves to learning the useful lesson, that it is best to rely on the physician alone. If anything goes wrong in the case while under these different and often opposite methods of treatment, the intruder is ever on the alert to blame the physician with it. Ask the intermeddler to take the responsibility, as well as the treatment of the patient, and he will draw from it; but as long as his acts are under cover, by reason of the physician's presence and connection with the case, nothing can repress the zeal of his meddling benevolence. Lives have been sacrificed, and the character of medical men are often compromised by this shameful conduct.

"Surely, if the people were properly informed in regard to these matters; if the principles and details of medical ethics were spread among them; if the medical profession would show their firm belief in the wisdom, justice, and propriety of professional ethics; and, above all, if they would, by their daily habits, manners, customs, and conversation, demonstrate these truths, the evils which we have so feebly portrayed might be diminished. Let each of us per-

form our duty to our patients, to the public, and to our professional brethren, and let us all attempt to teach the public what are *our rights*, and what are *their duties* to us, and good will come of it."

In relation to the practice of rendering professional service for a fixed sum per annum—the same, whether the services be great or small—the report holds the following correct sentiments:—

"This practice, which was formerly countenanced by most Western physicians, has of late years fallen into much disrepute, and deserves to be universally condemned. The gospel, which was given to be preached to the poor as well as the rich, declares of its ministers that 'the labourer is worthy of his hire.' These annual contracts are made with the object of violating this just maxim. The physician is a labourer worthy of his hire; and when he is applied to, to give his aid for this kind of compensation, the intention of the applicant is to obtain it for less than its value; to cheapen and depreciate his services; to invade his right of full compensation for his labour. When the physician accepts such an offer, or takes the initial steps in such bargaining, his object is to put himself beyond the reach of honourable competition. The motive is a low one, beneath the high sense of right which should mark, and has ever marked, the best medical men. It is wrong; it is dishonest for one whose circumstances will permit the contrary, not to offer suitable pecuniary acknowledgments for numerous and important, or even occasional and minor professional services; and the physician who does not claim them under such circumstances, but bars his claim by a contract, a contract made to shield him from his rivals, is guilty of the worst kind of undercharging, degrades himself, and wounds the dignity of his profession.

"The rule which should guide is perfectly plain: whatever professional services are rendered to a family, or an individual, should be fully compensated, as far as circumstances will admit; on the other hand, no right-minded physician will ask pecuniary acknowledgments beyond what his services may justly demand. These contracts, moreover, circumscribe a physician's liberty, if he lives up to them in spirit and letter. They occasion ill feeling, and subject him to the suspicion, on the part of his employers, of neglecting them in their slightest ailments, or tax him with unnecessary visits and attention to them."

"In this connection," remark the authors of the report, "we desire to call attention, with the view to condemn a practice founded upon a mere sordid feeling, which has obtained with a few—we believe and trust only a few: we allude to the acceptance of a percentage from druggists on prescriptions sent to them. This is a most despicable species of unprofessional contract. It clothes the physician's character in the habiliments of avarice—of an avarice which grasps the earnings of the apothecary; or, failing in that, preys upon the necessities and afflictions of the patient and his friends. Whenever the people learn of this nefarious trafficking, the profession sinks in their estimation, often the whole profession, for the guilt of only a few of its members.

"The physician who becomes a pensioner upon his apothecary, and, perhaps, drives him to overcharging the sick, damages his own character, and hurts the reputation of the whole brotherhood.

"We hope that calling the attention of the profession to this outrage upon its ethics will alone be a sufficient remedy for it." D. F. C.

ART. XIII.—*Reports of Institutions for the Insane in the United States.*

1. *Of the Pennsylvania Hospital for the Insane*, for the years 1851 and 1852.
2. *Of the Massachusetts State Lunatic Hospital*, for the years 1851 and 1852.
3. *Of the Bloomingdale Asylum*, for the years 1851 and 1852.
4. *Of the Ohio Lunatic Asylum*, for the year 1851.
5. *Second and Third Biennial Reports of the Illinois State Hospital*, for the years from 1849 to 1852.

NOTICES of most of the annual reports coming from the establishments devoted to the treatment of the insane in this country, down to the close of the

year 1850, have already appeared in our columns. Our file of these documents is not complete to the present time, the superintendents of some of the hospitals having failed to forward them to us. We proceed, however, to review such of them as we are enabled to without overleaping a year, and thus making a hiatus in their history, as represented on our pages.

1. *The Pennsylvania Hospital for the Insane*.—According to the report for 1851, the number of patients admitted into that Institution in the course of the year, was

Remaining at the close of 1850	204
Whole number for the year	417
Discharged or died	201
Remaining at the close of 1851	216
Of the patients discharged, they were cured	107
Died	26

Causes of death.—Acute mania 8, acute dementia 1, softening of the brain 5, epilepsy 1, pulmonary consumption 1, dysentery 3, chronic ulceration of throat 1, exhaustion from long refusal of food 1, suicide 1, cancer 1, old age 2.

“Several of the cases of acute mania were undoubtedly injured by the journey to the hospital during the existence of the acute symptoms, which often cannot without difficulty be distinguished from those of inflammation of the brain. While this doubt exists, the patient had better be retained at home, and the probabilities of ultimate recovery are not lessened by such a course.”

“The premature removals have this year been rather less frequent than heretofore, and there is reason to believe that the importance of persevering in a course of treatment for insanity is beginning to be more generally understood.”

The principal improvements in the establishment during the year, are a new museum and reading-room, additional means to extinguish fire, in case of conflagration, a summer-house in the women’s pleasure-grounds, and the substitution of steam for horse-power in supplying water. The new museum is constructed upon the same model as the one previously erected, and the two form a symmetrical feature in the arrangement of the buildings.

“The whole arrangement of the new one is such as to make it an attractive place of resort, especially to the convalescent, and the cultivated, studious patient; to all, indeed, who desire a cheerful and comfortable apartment, where they can quietly read and study, or amuse themselves by inspecting the various objects of interest spread before them. The funds which have been contributed have not only enabled us to put up and finish the building, but also to procure a very fair beginning for a library, and a foundation for a collection of specimens of natural history, minerals, shells, &c., and some pictures and busts. A fine dioptric prismatic lantern and a microscope have also been procured from the same source.”

If there be any dwelling inhabited by human beings in which a conflagration is more fearful than in any other, it is, and for very obvious reasons, an establishment for the insane. This evident truth, together with the fact that one of our public asylums was burned but two or three years since, and within the last three months a private one, while on the Continent of Europe, several have been destroyed in a similar manner, should induce all who have the charge of such institutions to see that the means of protecting them from fire are ample and efficient. Hence, the following remarks of Dr. Kirkbride may not be inappropriate in this place.

“Ordinarily, the greatest danger to be apprehended from fire in such establishments, is not so much that the inmates may be burned as from suffocation; and of course their safety consists especially in well-devised plans of prevention, or if that cannot be, of prompt detection, with abundant means always in order, for immediately extinguishing it. To effect these objects properly, the subject should be prominent in the minds of those who originally control the character of the edifice, quite as much as of those who are subsequently to manage it. It would seem to require little argument to prove that all such buildings should be made as nearly fire-proof as circumstances will permit.

If it is not deemed advisable to arch them throughout, other expedients should be adopted to prevent the rapid spread of fire, and to expedite the escape of the inmates. All the stairways should be made of iron or other indestructible material, ample in size and number; the roof should be of metal or slate, and arrangements should be made at different points, by which, if a fire does occur, it can be confined to one section of the building. There should also be a mode provided, by which, if at such a time, smoke should enter the air-chambers below, it could be prevented from rising through the flues in a dangerous amount to the wards above. All such establishments should be warmed by fresh-air passed over steam or hot-water pipes in air-chambers in the cellar, with the boilers placed in a building entirely detached from the main structure, and some distance from it. This mode of heating, carried out in the way suggested, will, of itself, remove the greatest source of accidents from fire in public institutions."

In the report for 1852, it is said that, "notwithstanding the extensive provision for the insane made by the State, at Harrisburg, and which has been available during the year just closed, this Institution has been about full during the whole period, and for much of the time inconveniently crowded, particularly in the wards appropriated to men."

Patients remaining at the close of 1851	216
Admitted in the course of the year	197
Whole number	413
Discharged or died	198
Remaining at the close of 1852	215
Of the patients discharged, there were cured	99
Died	28

Causes of death.—Acute mania 5, pulmonary consumption 6, softening of the brain 6, congestion of the brain 3, exhaustion from long-continued refusal of food 2, sloughing of the perineum 1, suicide 1, convulsions 1, inflammation of intestines 1, chronic ulceration of intestines 1, foreign body entering the trachea 1.

"Five of the cases terminated within ten days of their admission, and these were the fatal cases of acute mania."

Seven of the cases discharged were removed before they had been subjected to treatment sufficiently long to test their curability.

The whole number of cases received since the opening of the Institution, is, of males 1212, females 995, total 2207. Of these, 1049 have been discharged cured, and 230 died.

As the subject is of much importance, no apology is necessary for introducing a considerable portion of the very judicious and just remarks upon bodily restraint, which are found in the report before us.

"No point connected with the treatment of the insane is now more conclusively established than that every such institution *may* be conducted without the use of any mechanical restraint whatever. Whether it is expedient to do so, under all circumstances, is not so well settled. To dispense with restraining apparatus entirely, requires that a hospital should be so constructed as to give all the benefits of the most perfect classification, that it should always have a force of intelligent trained attendants, and abundant means for exercise and occupation in the open air. * * * * It is no advance to give up restraining apparatus and substitute frequent and long-continued seclusion. An individual may really be more comfortable and much better off in the open air, with some mild kind of restraining apparatus in his person, than he would be confined to his chamber without it. * * * * Temporary seclusion to a chamber, however, is a remedy not to be dispensed with, and is really important; but those who control it, should especially endeavour to make the periods of its use as short as possible, and always remember that from the moment it ceases to be useful, it rarely fails to become injurious. The free use of restraining apparatus is unfortunate in its direct effects upon the patients, for it brings about bad habits, and prevents the use of valuable means of treatment. It is, perhaps, still more mischievous, by its bad effects upon the attendants, and all

those who have the care and control of the inmates of a hospital. Where restraining apparatus is kept in the wards, and those in them become accustomed to seeing and using it, it soon comes to be regarded as the great resource in times of difficulty and danger, and is liable to make us forget the great importance of what can only be called tact, and the happy influence of gentleness, kindness, and sympathy, which, with occupation, constitute the great moral remedies for all forms of this affection.

"Desirable, or at least convenient as physical strength is, in a hospital for the insane, no one can be long in such an institution without discovering that those who exercise most control over patients, exert the most powerful restraining influences, and are most reliable with the excited, and most judicious in the time of difficulty, are not the individuals who depend upon their strength, whatever it may be, but are often the very persons who physically could render but little service. The gentleness and quiet confidence of a child may, under certain circumstances, effect what the strong man might have to give up in despair.

"Regarding a large and varied supply of restraining apparatus as an undesirable possession for any hospital, and believing the devising of new forms of it an unfortunate use of that ingenuity which should be employed in contriving means for dispensing with it entirely, this hospital has never owned a strait-jacket, a muff, a tranquillizing chair, or any of the still harsher means formerly used, nor of the novel ones more recently recommended. * * * * For the whole period of its existence, the average number using restraining apparatus would not exceed one per cent. of those in the house, and not more than from four to six in temporary seclusion in their chambers, generally for periods of from a few hours to a fraction of an hour. It has frequently happened that for several months together there has been no restraining apparatus used in the Institution. When apparatus is used, it is either in the form of leather wristbands, secured by a belt around the body, soft leather mittens fastened in the same way, a strong dress with the sleeves connected, or the apparatus for confining a patient on his bed."

After remarking that such restraints are sometimes evidently useful, that in certain forms of insanity they may even save the life of the patient, and that the sole direction of the apparatus should lie with the physician, Dr. K. says: "It may not be amiss to refer to the great advantage which is experienced in hospitals for the insane, from doing away, to the utmost possible extent, with even the *appearance* of restraint. This is the true field for the ingenious, and their efforts and contrivances in this way can hardly do harm. It begins in the very choice of a site; it continues in the construction of the buildings, in the arrangement of the wards, in their furniture and fixtures, in the kind and position of the inclosures, and in the conveniences, comforts, and luxuries of the establishment. It consists in making other objects prominent, even where restrictions are intended; in masking, as far as may, the unpleasant part of what is unavoidable, and in bringing out in bold relief before the patients so many objects for agreeable contemplation, and so many modes of occupation, as to leave little time or inclination for dwelling on what is of a less pleasant character."

A "Calisthenium"—a novelty, for females, in establishments for the insane, and therefore worthy of being heralded—containing a bowling-alley, and other means of exercise, has been erected for the women's department of the Institution. It is 60 feet long by 9 in width. In connection with the description of this, Dr. K. makes the following remarks:—

"There is a large class of nervous affections, from the slightest shades of diseased health up to diseases of the gravest character, which are mainly owing to a continued violation of natural laws, few of which can long be trampled on with impunity. Prominent among these laws seem to be those provisions which require that man should make free use of his muscles, and have pure air for the purposes of respiration. . . . It is unquestionably the great misfortune of many studious men and women, and of others with different sedentary occupations, that their pursuits present almost insuperable obstacles to their using free exercise in the open air, although it may well be doubted

whether a few hours thus spent in every day would not, at the end of the year, have enabled them, with less waste of the vital energies, to have accomplished an equal amount of work, and, at the same time, to have laid up a capital of health for future emergencies. . . . It is desirable that every part of the human body should be harmoniously cultivated; but that which will most tend to keep down an unduly excited nervous system, will unquestionably be found to be a proper development and exercise of the muscular. 'Muscles *versus* Nerves,' is really the motto of our new Calisthenium, and the Calisthenium has been established from a conviction that a large number of cases of the highest interest are constantly to be met with, attributable to the causes already referred to, and proving conclusively the truth of the views which have just been cursorily given."

Gas, from the Philadelphia gas-works, has been introduced into the building, which is furnished with two-hundred and forty-five burners. "In the lecture-room, especial pains has been taken to make it tributary to the objects for which that room is designed—the amusement and instruction of the patients. Lights have been arranged to show transparencies to great advantage, while fixtures have been contrived for the convenient darkening of the room during the exhibition of dissolving views, and for showing the different modes in which gas may be burned, as well as some other somewhat novel arrangements that are likely to interest our audience."

2. *Massachusetts State Lunatic Hospital.*—In Massachusetts, a new State Hospital for the insane is nearly completed. Dr. Chandler, of the hospital at Worcester, in his report for 1851, in alluding to it, and also to the prospect that a third establishment of the kind will become necessary in the course of a few years, discusses the subject of having distinct institutions for the two sexes. He quotes the great German *psychiatrist*, Dr. Jacobi, in favour of such a plan, and concludes that the propriety of it will hardly be questioned by those who are practically familiar with the subject.

	Men.	Women.	Total.
Patients at the State Hospital, Dec. 1, 1850,	228	213	441
Admitted in the course of the year	125	138	263
Whole number	353	351	704
Discharged and died	111	127	238
Remaining, Nov. 30, 1851	242	224	466
Of those discharged, there were cured	56	55	111
Died	13	26	39

Causes of death.—Marasmus 3, apoplexy and palsy 6, consumption 5, epilepsy 4, suicide 1, disease of brain 1, typhus fever 1, lung fever 2, dysenteric fever 1, inflammation of bowels 3, erysipelas 3, bronchitis 1, old age 1, maniacal exhaustion 5, pleurisy 1, jaundice 1.

"Intemperance," says Dr. C., "sends a few of its victims to us every year. A singular case, in respect to long-continuance, now nearly a year, of the peculiar symptoms of delirium tremens, has been under our care. When his attention is not diverted by the presence of others, he almost constantly sees 'the pistols of the villains who are trying to shoot' him, 'pointing right towards' him. He often holds the building from 'tipping over on to him,' as he says; and he will exert himself for hours to prevent his wagon from turning over."

"Two cases have come to us the past year, resulting from disease of the bowels contracted in California. The disease of the bowels in each case has been removed, but the sympathetic affection of the brain will remain. Within the last three years, the wives of nine men have come to our care in consequence, in almost every instance, of their husbands going to California."

In the remarks upon the mortality in the Institution, it is stated that "insanity, with many, is but one of the symptoms of a general breaking-up of the physical constitution." It "usually consumes the vital principle rapidly. But there are a few exceptions where the physical powers are but little affected by many years of mental disturbance. The average of the 36 who died the last year, the duration of whose insanity was known, was 49 years and 8 months. The

average time insanity continued in the 28 in whom it lasted more than one year, was 9 years and 3 months; and the average time it continued in the 8 in whom it did not continue one year, was 4 months and 7 days."

A valuable meteorological journal has been published in the annual reports of this hospital for the last thirteen years. In 1851, the State furnished the Institution with a set of instruments for the purpose of making more extensive observations. They consist of a barometer, thermometer, psychrometer, rain-gauge, and graduated measures. They were accompanied by a table of reduction, and the directions emanating from the Smithsonian Institution.

By the report of 1852, it appears that this establishment is likely to become an asylum for foreign paupers, rather than a curative establishment for natives. The number of foreigners remaining at the close of the year 1842 was 34, and the number has regularly increased, until, at the end of the last year, it was 241.

	Men.	Women.	Total.
Patients remaining, Dec. 21, 1851	242	224	466
Admitted in the course of the year	148	161	309
Whole number	390	385	775
Discharged	126	117	243
Remaining, Nov. 30, 1852	264	268	532
Of those discharged, there were cured	55	48	103
Died	20	25	45

Causes of death.—Maniacal exhaustion 11, marasmus 7, consumption 6, apoplexy and palsy 3, epilepsy 3, "disease of brain" 2, old age 6, disease of heart, suicide, hemorrhage, intestinal inflammation, dropsy, diarrhoea, and "disease of brain from intemperance," 1 each.

During the first half of the year, there were 13 cases of erysipelas of the head among the patients, but none of them were fatal. The application of warm water was "grateful in some cases, but the effects of other topical applications of doubtful utility."

In reference to the subject of hereditary predisposition to mental alienation, Dr. C. says: "A mother, two sisters, and a brother, have been inmates of this hospital. All of them have been here twice, and some three times. Two brothers and two sisters, of another family, have been inmates here. Other members of the same family have been insane. The members of this family were periodically affected. Of another family, two brothers and a sister have been patients here. The father, mother, a sister, and two other brothers, were for a time insane. At this time, we have three male patients, who have each a sister with us. A mother and her daughter are patients here, at this time. We once had twin sisters, and once a man and his wife, as patients."

Upon another subject, and one which has attracted considerable attention in some other parts of the country, during the past two or three years, we find the following statements: "Five (patients) have been brought to us, whose minds were overborne by investigating the phenomena early designated as the 'Rochester knockings.' The two males recovered their former health of body and mind very favourably, and two of the females will probably recover. They were all what are called 'nervous' persons, and were, at the time of their admission, suffering from physical disease."

The whole number of patients admitted during the twenty years of the operations of the hospital, is, of males 2090, females 2080, total 4170. Of these, 929 males and 979 females have been discharged recovered; and 232 males and 218 females, a total of 450, died in the hospital. In the first decennium, the number of males admitted was 812, of females 751, the former considerably predominating. In the last decennium, the number of males was 1291, of females 1322, the latter predominating. The average number in the hospital has regularly increased from 107 in 1833, to 515 in 1852. Greatest number, at any one time, 552, in September, 1852.

3. *Bloomington Asylum.*—Dr. Nichols's report of the Bloomington Asylum, for 1851, is extremely brief, extending only to the length of *two pages*.

	Men.	Women.	Total.
Patients remaining at the close of 1850	50	60	110
Admitted in 1851	43	52	95
Whole number	93	112	205
Discharged	33	39	72
Died	6	5	11
Remaining, Dec. 31	54	68	112
Of those discharged, there were cured	17	26	43

Causes of death.—Epilepsy 3, serous apoplexy 2, "tuberculous disease, one chiefly affecting the bowels, the other the lungs," 2, puerperal peritonitis 1, arachnitis 1, "old cases of senile dementia, in one of which death appeared somewhat hastened by an attack of eczema, and the other by jaundice" 2.

Dr. Nichols resigned his office in the spring of 1852, and has since been appointed to the superintendence of the National Hospital for the Insane, about to be erected in the District of Columbia.

Dr. D. Tilden Brown, a gentleman well qualified for the place, was elected as successor to Dr. Nichols. In making up the report for 1852, although he has "followed in the footsteps of his predecessor, yet he hardly equals him in brevity, for the document extends to *three* pages.

	Men.	Women.	Total.
Patients at the close of 1851	54	68	112
Admitted in 1852	56	48	104
Whole number in 1852	110	116	226
Discharged, died, and eloped	58	49	107
Remaining at the close of the year	52	67	119
Of those discharged, there were cured	25	23	48
Died	11	7	18

Causes of death.—Paralysis 4, epilepsy 3, puerperal mania 2, exhaustion from prolonged excitement 2, apoplexy, inanition, extensive abscesses, dysentery, acute meningitis, 1 each; (2 not stated.)

"Seven patients died within ten days after admission, and five others after a stay varying from two to four weeks."

4. *Ohio Lunatic Asylum.*—Next upon our file to the report from Bloomingdale, lies its antipode in length, that of the Ohio Lunatic Asylum, for 1851. Here are ninety-five large and closely printed pages, from the pen of Dr. S. Hanbury Smith, the extent of whose professional reading is probably as great as any other physician who has been connected with the institutions for the insane in this country.

	Men.	Women.	Total.
Patients remaining Nov. 16, 1850	170	148	318
Admitted in course of the year	133	150	283
Whole number	303	298	601
Discharged	153	147	300
Remaining Nov. 16, 1851	150	151	301
Of those discharged, there were cured	77	86	163
Died	19	21	40

Causes of death.—Exhaustion of acute mania 5, chronic mania 6, phthisis pulmonalis 4, apoplexy 3, chronic peritonitis 3, dysentery 3, tabes mesenterica 3, inanition 3, chronic hepatitis 2, epilepsy, general paralysis, pneumonia, bilious colic, chronic colonitis, nephritis, gangrene of face, anasarca, 1 each.

"Five were brought in dying, and a sixth died on the road. Persons unaccustomed to see and treat such cases are very apt to be deceived by the *apparent strength* of the patient, not suspecting that his unceasing exertions are rapidly wasting the oil of life."

"During the past year, no less than 23 persons were received, perfectly quiet and harmless, but in whom intellect was utterly extinct. * * * When, as has been so long and so advantageously practised in Continental Europe and Great Britain, the medical officers of State Lunatic Hospitals shall publicly

lecture on mental disorders, and instruct a select class of advanced students; when a knowledge of the nature and treatment of insanity shall be looked upon as indispensable to the well-educated physician, and colleges shall make the possession of that knowledge a condition necessary to the obtaining of a diploma, then will establishments like this, mainly intended for the cure of mental disorders, not the custody of the incurably insane, cease to have their wards filled with hopeless cases, patients will neither be hurried off to die on the road or immediately after their reception in the asylum, nor be kept at home until their cases have become hopeless."

We quote the following extracts from the remarks upon medical treatment. "The asthenic character of disease, now becoming so marked in the great Western Valley, has been singularly prominent in the cases received last year. In no one was the idea of depletion entertained for an instant, by any of the medical officers of the Institution; and those who had lost blood previously to their admission proved exceedingly difficult to restore, sank into hopeless dementia, or died. It must now be considered as a settled thing that, during the continuance of the present asthenic epidemic constitution, depletion is exceedingly hazardous, and commonly contraindicated in insanity; and in the very same forms of disease in which bloodletting was formerly so freely practised, the liberal use of stimulants is now required, tolerated, and proves eminently curative.

"In the treatment of acute cases of mania, the bowels have been first thoroughly cleared by appropriate medicine; such as a warm aloetic purgative, cathartic pills, or calomel and jalap, assisted by compound infusion of senna, and injections, as the case might be. Sometimes I employ an emeto-cathartic of one grain of tartar-emetic, ten grains of calomel, and twenty of ipecacuanha. After freely evacuating the bowels, they have been kept soluble with milder medicines. Immediately after the action of the cathartic, sometimes previously to, or during that action, the patient commences the use of from four to six ounces of wine, three or more times a day, or an equivalent portion of brandy, together with abundance of the most nourishing and easily digested food. Excitement commonly ceases very quickly under the above treatment."

If the stimulus cease to have curative and produce patho-genetic effects, as indicated by a dry tongue, constipation, and cardiac irritability, it is stopped, and substituted by ferruginous tonics, of which Dr. Smith prefers the muriated tincture of iron.

"Only in some few cases, marked by extreme irritability, restlessness, and want of sleep, with moist, flabby, and tremulous tongue, natural or dilated pupil, frequent, irregular, and weak pulse, and cold relaxed skin, has opium been used to any extent; then commonly with wine, and always with excellent effect. In proportion as the general condition approaches that of a patient delirious from typhoid fever, have we found the combination of opium and tartar-emetic, as recommended by Graves, and in the form originally proposed by him, of service, though its use requires watching, to guard against ill-consequences from its depressing action."

"With regard to the treatment of puerperal mania, I have nothing new to offer. I shall content myself with expressing the opinion that bloodletting is eminently contraindicated. In this matter all authorities agree. Churchill says he 'has never found it advisable.' Pritchard, that it 'is condemned by all practical writers, on whose judgment much reliance ought to be placed;' and Esquirol, Harlam, Gooch, and Burrows, are equally opposed to it. Even where local inflammation is discovered, there are other means of combating that besides bloodletting, which, if decided upon, must be used with the utmost caution; and, with the present epidemic constitution of disease, I should much fear even local depletion.

"Our main reliance is upon purgatives. If there is great excitement, I have much confidence in the already-mentioned combination of the potassio-tartrate of antimony, with opium, known as 'Graves's Mixture,' or muriate of ammonia, with digitalis; afterwards, if the head be not hot, full and repeated doses of opiates. Exhaustion is the great danger to be apprehended. This is to be combated with nourishing diet, easy of digestion, tonics and stimulants, as wine, ammonia, turpentine. As a tonic and stimulant, I have a predilection

for a combination of chinoidin and serpentaria, analogous to, but more active than Huxham's tincture; and in lesser degrees of debility, I employ valerian and arnica."

Dr. S. states, that 37 of 108 married or widowed females admitted during the year, had become insane in consequence of childbearing; and 25 of the cases were *puerperal*. This "enormous" proportion serves as a text for remarks to a considerable length, in which he assumes that so great a prevalence of *puerperal mania* must act as a powerful genitive cause of insanity, by the transmission of an hereditary taint to the children.

Seven cases of insanity connected with disease of the ear, inflammation of the *meatus-externus* and the *tympanum*, were treated in the course of the year. Three of them were cured by curing this local disease. The fourth was a demented patient, in whom the *otorrhoea* produced maniacal excitement. The latter subsided in proportion as the former approximated restoration. The other three were under treatment, but two of them "have hitherto proved refractory."

Under the head of "Critical Phenomena," five cases are related in which, during the course of the year, the patients were cured of their psychical disorder by *diarrhoea*; four, by "boils;" one, by "sloughing sores, especially on the lower limbs;" and two by "cachectic sores."

"A long experience," says Dr. S., "of the great value of the preparations of chlorine in adynamic conditions, caused by or accompanied with a presumably *septic* change in the blood, has led me to make trial of them in those forms of mental disease associated with an unusual lividity and coldness of the lips, hands, and sometimes the tip of the nose, evidently due to an embarrassed capillary circulation, and that, as I conceive, ascribable to some such morbid condition as that above mentioned. In such cases, the chlorate of potassa is the preparation I prefer, and the observations of the last year have fully confirmed the opinion of its value which I entertained. Again and again has its use corrected the condition of the circulation in question, when all other means had been tried in vain; speedily removing or diminishing the lividity, coldness, and sluggish movement, with a correspondent improvement in the health of body and mind. I commonly prescribe it in doses of two or three grains, quickly increasing to ten grains or more, dissolved in two or three ounces of camphor-water, three or more times a day. Occasionally, it may with advantage be administered in infusion of valerian, arnica, or with almost any other medicine indicated."

"In four cases, two of dementia and two of mania, caused by masturbation, the tincture of the muriate of iron, in large doses, was found to be the best anaphrodisiac we could employ, appearing to be the real agent in the cures which followed its use." The nymphomania of a case of recurrent mania was rapidly cured by bromide of potassa, in fifteen-grain doses, three times a day.

Arranged under separate captions in this elaborate report, among them the "impropriety of deceiving the insane," and "on the treatment of patients after they return home," the reader will find much interesting and useful matter. Since the publication of it, the hydra of politics has crawled, in its slimy pathway, into the domain of philanthropy, benevolence, and charity, in Ohio, and driven from their places all the officers, not of the Lunatic Asylum alone, but of all the State institutions in the city of Columbus. Ohio had previously taken and sustained an exalted position in regard to those of her citizens who, suffering under the defects and diseases to which our race are liable, demanded or merited that assistance which can best be afforded at public institutions. The whole expense of the Lunatic Asylum, original and current, and, if we mistake not, of some, if not all, of the other benevolent establishments, have been and are defrayed from the public treasury. So noble a precedent ought not to have been soiled, its merit dimmed, annulled, by one which, in the minds of all who rightly understand the nature of the duties of the officers of an institution for the insane, can but be considered as imprudent, unwise, unjust, ignoble, seriously detrimental to the welfare of those for whose benefit those institutions are founded.

We are writing of *principles*, not of *men*. For aught we know, the places of

the removed officers have been supplied by persons equally meritorious, although they lack the important element of experience. But if the principle be established that rotation in office, at public beneficent institutions, must correspond with the changes in national, State, or municipal politics; that the moneys devoted to charitable objects must be converted into "loaves and fishes" for the maws of political cormorants, then farewell to all progress in those institutions, to the hopes and aspirations of the philanthropist, and to the best interests of the insane, the blind, and the deaf and dumb. Apathy of officers, carelessness of police, looseness of administration, neglect of patients or other inmates, and general deterioration, must be the inevitable results. May Ohio soon retrace the path in which, by a humiliating descent, she has taken the initiative; and may all other States contemplate this precedent in its proper light, that they may shun and not follow it!

5. *The Illinois State Hospital for the Insane* is at Jacksonville, and under the superintendence of Dr. J. M. Higgins. The second biennial report was issued before the buildings were sufficiently complete to receive patients, and consequently is principally devoted to financial affairs. From the third report, which closes with the 1st of December, 1852, we learn that the hospital was opened for the reception of patients on the 3d of November, 1851.

	Men.	Women.	Total.
Patients admitted	73	65	138
Discharged cured	18	16	34
Died	1	5	6
Remaining, Dec. 1, 1852	43	39	82

In view of the fact that about two hundred and forty applications for the admission of patients—enough to fill the present building—have already been made, and that the means of classification are imperfect, Dr. H. recommends the erection of two additional receding wings, as was contemplated in the original design of the establishment.

The barn was burned in July last, having been set on fire by one of the patients, intentionally, so far as appears. The buildings are to be warmed by steam, on a similar plan to that of the hospital at Trenton. The boilers are in a detached building, ninety feet distant from the principal edifice.

The amount of work which, according to the report, has already been performed by the patients, is a sufficient evidence that a proper estimation of manual labour, as a hygienic and restorative means, is entertained by the superintending officer of the institution. P. E.

ART. XIV.—*A Treatise on General Pathology*. By Dr. I. HENLE, Professor of Anatomy and Physiology in Heidelberg. Translated from the German by HENRY C. PRESTON, A. M., M. D. Philadelphia, Lindsay & Blakiston, 1853: 8vo. pp. 391.

THE author of this treatise introduces it to the profession with the declaration that it is unnecessary to make any apology for its theoretic tendency. He says: "It is the prevailing conviction that, as the old, empirical, eclectic system of medicine, against which we are struggling, is founded upon various hypotheses, so its foundation is the more insecure the less its fundamental principles are connected, and the less it was considered, in the building up of the system, how much it would be able to support. The science of medicine is now aroused to such a degree of self-consciousness that she has no superiority over other empirical knowledge; that she cannot take a step in advance which she has not first marked out by an hypothesis. And this is well; for the day of the last hypothesis would also be the day of the last observation." The translator would have done well, we think, to have retained the original name of

"Rational" Pathology, since it is less a treatise upon general pathology than an exposition of certain scholastic principles of investigation applicable to this subject. We have found no little difficulty in following the intricacies of the author, and unravelling the true sense of his metaphysical language, incumbered by the awkward assistance of a too literal translation, but will strive very briefly to lay before the reader a general idea of the contents of the work.

A sketch of the comparative value of the numerical and the theoretical system is found in the Introduction. The author arrives at this result, viz., that the two modes of examination are mutually dependent; that an hypothesis suggests an experiment as often as this does an hypothesis, and that it is not by a rigid separation of the two that the advance of medical science may be furthered, but much rather by their co-operation.

The author divides his subject into: 1st. The idea and nature of disease. 2d. The doctrine of the causes of disease in general, or general etiology. 3d. The local relations of disease; the conditions of its propagation in the organism; the manner of its transition from one organ to another. 4th. The relations of disease in regard to time, or the general history of disease; its course, duration, and termination. Disease is defined to be a deviation from the type according to which organic beings develop themselves; and the nature of disease "the manifestation of the typical force under unusual conditions." By *typical force* is meant the force which gives a determinate form to matter. Hence, all knowledge of morbid processes depends upon a discernment of the nature and mode of action of the typical force. The distinction made between the vital and the typical force is that the former is general, the latter specific. The former, for example, "contains the cause why an egg is developed under the influence of caloric; the latter, the reason why it is developed to this or that particular organism. There is only one vital force, but just as many typical forces as there are empirically limited genera of animals and plants. We will not attempt to lead the reader through the subtle speculations respecting these forces, but extract the following passage, which appears to embody the author's idea: "Anomalies are explained as manifestations of the typical forces under extraordinary conditions; from the peculiarities of the type of organic beings should be explained why among these anomalies only are represented as diseases or morbid processes. We find that the matter of animate bodies is in constant fluxion; that the loss and renewal of substance is a fundamental character of the living. . . . Only as long as it maintains itself is the individual sick: an alteration which completely annihilates it, occasions not disease but death. Disease, therefore, is a process, because life is a process; if it belongs to the type of a body to change its form or substance, then abnormal influences change it not only for the instant, but they also change its mode of transforming itself; according to the duration of their effect, they divert it for a longer or shorter time, or for ever, from the object for which it was destined. The development deviating from the destined aim is the *pathological process*."

The chapter on etiology carries on the hypothesis of typical forces, representing these as in conflict among themselves and with the natural forces of the external world. The living body possesses the property of being *irritated*, of repelling this *irritation* by *reaction*, and of afterwards returning to its normal condition, which act is termed *restitution*. These qualities are treated of at length, and followed by a discussion of the effects of practice, habit, and usage. The remarks upon the hereditary quality and the constitution are of a highly interesting and philosophical character.

Under the head of "disease in its relations of extent," the subject of sympathy and antagonism is fully entered upon. Sympathy is defined as "the inborn or habitual connection of the parts of an organism, interposed by one of the normal tissues or organs, in such a manner that, reciprocally in the rule, the changed condition of the one causes a change in the other." The distinction made between sympathy and antagonism is that, in the first, the change in the condition of one organ produces a similar change in the one which is sympathetic; while in the latter a change of an *opposite* character occurs. Hence, the sympathy between the skin and the kidneys is called antagonistic, since the function of the one is exalted when that of the other is

depressed; but the discharge of tears occasioned by taking snuff, and headache owing to indigestion, are presented as examples of sympathy or synergy. The relation may also be synergetic or antagonistic; "thus, inflammation of the mucous membrane of the nose (catarrh) may continue as an exanthem upon the external parts of the nose synergetically, and is cured antagonistically by cutaneous irritants."

We pass over the "sympathies through the blood," which really do not seem to us to be clearly made out, and come to the sympathies of the nerves. This portion of the work is by far the most interesting and instructive. The author prefaces his observations upon the nervous sympathies with a description of the anatomical structure of the nervous system in a physiological point of view. The sympathies are treated of under the divisions of those of the cerebro-spinal, splanchnic, or visceral nerves, nerves of the cellular tissue, vascular nerves, and psychical nerves.

It would be in vain for us to offer even an analysis of these chapters; for this, to be at all satisfactory, would far transgress our proper limits. Suffice it to say that, to those who delight in delving into the recondite mysteries of the nervous microcosm, the speculations of our distinguished author will give valuable assistance.

The ingenuity of these theories may interest while their intricacy perplexes the reader; they are the product of a genuine German mind, ever at home in the misty regions of hypothesis. How far they really improve our acquaintance with the pathology of the nerves remains to be determined. It is certain, however, that the author has laboured most earnestly and conscientiously to this end, and we may hope that his opinions will stand the test of time and future experiment.

M. S.

ART. XV.—*Medical Jurisprudence*. By ALFRED S. TAYLOR, M.D., F.R.S., &c. Third American, from the fourth London, edition. Edited, with additions, by EDWARD HARTSHORNE, M.D., &c. &c. Philadelphia, Blanchard & Lea, 1853: 8vo. pp. 621, including glossary and index.

WE are glad to see another American reprint of this excellent manual. The comparatively rapid sale of so many large editions affords encouraging evidence of the increased interest felt by legal and medical practitioners generally in the study of Medical Jurisprudence.

It cannot be denied that a lamentable negligence, as well as ignorance, of the most elementary principles and facts discussed by Dr. Taylor has existed, and still more or less prevails, among otherwise accomplished members of both professions in the United States. The great majority of those who practise at the bedside or at the bar appear, so far as practical results would show, to regard this particular course of study as one that hardly comes within their province, except as a matter of curiosity or general scientific note. They are too apt to forget, unless suddenly reminded of it by some unforeseen and painful *contretemps*, that no lawyer or physician is ever altogether free from the liability to become involved in a medico-legal inquiry that must end, to a greater or less extent, in a public trial of his own acquirements as an expert or a medical jurist. Exposures of this kind, and the mischievous and mortifying blunders consequent upon the want of preparation for them, are frequent enough to have provoked abundant comment in relation to important questions; but a much larger amount of equally disgraceful and absurd neglect of the ordinary rules of legal medicine occurs in the management of minor cases coming up from day to day, the details of which are too easily overlooked. The short comings in these instances, bad and common as they are, owe their escape from the censure they deserve more to the indifference and incompetence of the frequenters of the courts, than to any actual want of moment in the issues tried. We view with especial satisfaction, therefore, every new advent of a standard treatise like the one before us.

We value it as a pioneer scarcely less than as a guide. The merit which has always most effectively distinguished it, is its adaptation not only to supply, clearly, forcibly, and most practically, all the important precedents and precepts of the science in its foremost progress, but to present these in so convenient a form and agreeable a manner as to attract an attention to such studies which more voluminous, although classic treatises, have failed to win. Dr. Taylor's name, in fact, has long been an ample guarantee for the high character of any work he may produce; and the well-established reputation of his previous editions renders it unnecessary to dwell upon the sterling qualities which characterize the last, in common with its predecessors.

We may proceed, therefore, without farther commendation, or any attempt at critical analysis, to point out briefly the improvements which the book has undergone in its seventh passage through the press. For this purpose, we can not do better than to use the language of the author and his commentator in their respective prefaces. The former tells us that "he has found it necessary to revise the whole of the chapters," and that many important cases of recent occurrence have been introduced along with numerous other additions and alterations. The latter likewise informs us that the London imprint is brought so fully up to the date of publication that the short time since elapsed has rendered his duties comparatively light. He has taken care, however, to incorporate in his own notes all that was still applicable of the additions of his lamented predecessor, the late Dr. R. E. Griffith, and "has endeavoured, also, whilst avoiding any increase of bulk as much as possible, to present all the important facts and cases that have recently occurred within his knowledge, especially in this country."

The following extract from the English preface will give a more precise idea of the nature and value of the changes above referred to:—

"Under Poisoning, the additions include a notice of the new enactments affecting medical evidence, and of the recent decisions regarding the administration of poison; some new facts and cases illustrative of the action of arsenic, opium, strychnia, the salts of lead, antimony, and other poisons, as well as improvements in the application of chemical tests for the detection of poisons. Under Wounds, the changes produced by the new statutes; cases of peculiar and severe suicidal wounds; struggling and power of exertion in wounds of the heart; processes for the detection of blood-stains, and their distinction from vegetable dyes; the examination of weapons and projectiles; additional facts regarding burns on the living and dead bodies. Under Child-murder, medical evidence derivable from an examination of the umbilical cord, with references to many new cases. Additions have been made under Abortion, on the action of oil of savin; under Legitimacy, on the duration of pregnancy; proofs from the development of offspring; plural and twin births: under Rape, fallacies attending evidence from the examination of females: under the various forms of death from Asphyxia, additional facts regarding the examination of the bodies of persons who have died by drowning, hanging, strangulation, and suffocation; facts and cases illustrating the means of distinguishing homicidal from suicidal strangulation: under Insanity, some additions on the application of Restraint; decisions in recent cases, showing the liability of medical practitioners; the testimonial capacity of the insane, with remarks and cases illustrative of Homicidal Mania and the Plea of Insanity."

In glancing at the additions of the American editor, we notice several under Poisons, and under different heads throughout the book. Under the first caption, we find paragraphs relating respectively to the meaning of the term "poison;" to the influence of habit on poisons in connection with the use of opium or arsenic; the solubility of arsenic; lead poisoning; fatal effects of oil of tansy; poisonous flesh and other food; and, finally, to narcotico-acrid plants of the United States. In referring to the habitual employment of opium, and the alleged resort to arsenic in the same way, Dr. H. calls attention to the enormous increase (ten times in as many years) in the consumption of both of these dangerous drugs, and to the importance of ascertaining what becomes of the great quantities of arsenic which are now constantly spread over the whole country, to be tampered with at will by every one without the least account-

ability. Whatever may be done with it, serious mischief will inevitably grow out of the reckless distribution of so potent an agent, unless some means similar to those now happily in operation under the recent British law be speedily adopted. The inquiry is now in the hands of a most competent committee of the National Pharmaceutical Association, to whose care it properly belongs, and who doubtless will be able to throw some material light upon the question in its different bearings. We agree with Dr. H. in the earnest hope that they will not only clear up the mystery of the inordinately disproportionate demand for arsenic in places where it cannot be devoted to manufacturing or the arts; but will, moreover, devise some efficient plan of action which shall save our community from the shocking state of things by which our British brethren were finally aroused to the enactment of the stringent regulations now in force among them. We are not aware of any law in this Union which places proper restrictions on the sale of poisons, except the law of the State of Ohio, and this is, probably, as Dr. Hartshorne intimates, a dead letter in that State.

Unfortunately, neither time nor space will allow us to specify at length or comment farther on the Philadelphia additions, although some of them, and one or two especially, we think worthy of more particular notice. Among them might be mentioned those upon the non-immediate fatality of fractures of the skull; upon the fatal administration of the oil of tansy for abortion; on the rights and interests of persons of doubtful sex, or afflicted with sexual malformation; on the pathology and treatment of asphyxia from drowning, hanging, poisonous inhalations, or other causes; and, finally, upon the various knotty and perplexing questions connected with mental aberration in its different forms.

We must leave these topics for the present, however suggestive and tempting in themselves, and dismiss them with the single remark, which is due to the labours of our friend, that although necessarily brief and sparing in frequency, in obedience to the design and example of his author and the best interests of his working readers, his notes are interesting and instructive, and prove that his familiarity with this peculiar kind of reading has enabled him fully to attain the modest end proposed, of adding "somewhat to the usefulness of this reprint among his countrymen, if not to its interest generally as the latest publication on the subject." We cordially wish him, and the publishers who have intrusted him with its preparation for the American press, the gratifying success which it enjoyed under the care of the accomplished Griffith, and which every such essay of Dr. Taylor will be sure to win. No work upon the subject can be put into the hands of students either of law or medicine which will engage them more closely or profitably; and none could be offered to the busy practitioner of either calling, for the purpose of casual or hasty reference, that would be more likely to afford the aid desired. We therefore recommend it as the best and safest manual for daily use, and as the most convenient as well as attractive introduction to the larger systematic works of Beck and others in our language, and of Orfila, Devergie, Casper, and others, in the Continental tongues.

ART. XVI.—*Letters on Syphilis: addressed to the Chief Editor of the Union Médicale.*—By PH. RICORD, Chirurgien de l'Hôpital du Midi, &c. &c. With an Introduction by Amédée Latour, Rédacteur en Chef de l'Union Médicale, &c. Translated by W. P. LATTIMORE, M. D. Philadelphia, A. Hart, late Carey & Hart, 1852: 8vo. pp. 270.

THE medical world is familiar with the reputation of M. Ricord as a syphilographer; and what he has done towards the elucidation of the obscure points connected with the history of venereal diseases is well known. In calling the attention of our readers to a new volume bearing his name, we need, therefore, only indicate the nature of its contents.

So far as we can see, M. Ricord contributes no novelty in this volume, but contents himself with going over again the ground which he has measured in his first Treatise on Syphilis, in his edition of Mr. Hunter's book on Venereal Diseases, and recently in his *Iconographie Syphilitique*. This reiteration of his views seems to have been evoked in consequence of the objections urged against them by several authoritative surgeons in France and elsewhere. Accordingly, in this series of Letters, thirty-five in number, M. Ricord advocates his own opinions and combats the opposing sentiments of his adversaries, in a very sprightly, and at the same time in a very forcible manner.

In the first *nine* letters, the prominent facts relating to *Blennorrhœa* are stated; that it is a distinct affection from Syphilis, possessing no uniform and specific contagious virus, like the latter, but induced sometimes by the matter of *leucorrhœa*, the menstrual blood, and other simple irritants, emanating from the genital organs of the female, who is herself entirely free at the time from any venereal disease; sometimes also by simple changes in diet, great and prolonged fatigue, excesses in sexual connection, or great sexual excitement without connection, while, however, its most frequent special inducing agent is the mucus furnished by the inflamed genito-urinary mucous membranes; that it is not produced by the secretion from a true syphilitic chancre, or, if so occasioned, it is only in consequence of this matter acting as an *irritant merely*; consequently, "a woman having a chancre at the inoculable period may thus determine in man a blennorrhagia which will not inoculate," p. 51; that the consecutive symptoms following blennorrhagic inflammation of the genito-urinary mucous membranes—bubo, rheumatism, &c., are essentially different from the true secondary phenomena of chancre, which depend upon a morbid alteration induced in the blood by the absorption of the syphilitic poison; that in all cases where a discharge, supposed to be merely blennorrhagic, has been followed by evidences of secondary syphilis, the diagnosis was faulty—a concealed chancre of the urethra, or of some other part, was overlooked; that the only certain way of forming a strictly correct diagnosis in suspected or doubtful cases is to inoculate with the secreted matter.

The remaining letters discuss the subject of *Syphilis* proper. The principal points touched upon are, the source of the specific cause of the morbid poison producing syphilis, viz. *chancre*; the inoculability of the secretion of chancre, under proper conditions; the identity of the effects occasioned by the natural and the artificial contagion; the non-inoculability, so far as *positive proof* has hitherto established, of the matter of *secondary* syphilitic sores, *e. g.* mucous papules, rupia, ulcerated tubercles, serpiginous ulcerations, &c. &c.; the possibility of communicating primary syphilis from man to the inferior animals, by artificial inoculation or otherwise; the pathogeny of chancre in its various forms; the characteristics and progress of the syphilitic bubo; the phenomena of constitutional infection; the possibility of *syphilization*, concerning which much discussion has recently taken place, *i. e.* the possibility of producing in an individual, by the aid of natural or artificial inoculation, such a condition of constitution as shall ever after, or at any rate for a time, render him proof against syphilis.

These topics are not new, as we have before remarked, and they are not presented as novelties in the book before us. But many of them are dilated upon rather more than in M. Ricord's previous publications. The style in which the letters are written, too, is attractive, piquant at times, and witty. Those who are already devoted to the views of M. Ricord, will be, we do not doubt, still more convinced of their correctness; those who are skeptic now, will not, after perusing this volume, have found much to remove or lessen their infidelity; because the manner in which truths are here presented and errors combated, is hardly severe and didactic enough to satisfy an unbeliever; like the operations of light-horse in warfare, it is rather adapted to distract, harass, annoy the enemy, than to conquer him.

The translator of these letters has had a more difficult duty to perform than ordinarily falls to the lot of the renderer of French medical writing; for the reason that the English language can scarcely unbend so much as to assume the easy, gay, and careless step of letter-writing French; the attempt must almost of

necessity appear a little awkward and clumsy; one might as well expect a heavy Norman war-horse to prance and caracol like a lady's palfrey, or a whale to sport and leap like a trout. Bearing in mind this intrinsic difficulty, however, we think that Dr. Lattimore has succeeded very well in doing *M. Ricord* into English. There are a few terms which he has not been so happy in rendering as we could have wished, *e. g.* the words "*chancre larvé*" are almost constantly translated "*chancreous larvæ*." This is exceedingly faulty; it would have been much better, it strikes us, to have left the words untranslated, for most physicians now know what "*chancre larvé*" means, or to have used the term concealed chancre.

F. W. S.

ART. XVII.—*Elements of Health, and Principles of Female Hygiene.* By E. J. TILT, M. D., etc. etc. Philadelphia, Lindsay & Blakiston, 1853: 12mo. pp. 436.

THE leading principles of hygiene are applicable alike to both sexes; their object is to improve the physical condition of man and to maintain his entire organism, in the healthful exercise of its various functions. There are, nevertheless, peculiarities in the female constitution, and certain tendencies to disease resulting from these, which, though they in no degree change the general laws of hygiene in their application to her, nevertheless demand a special consideration of those laws in reference to her particular organization and sexual functions. To apply these general hygienic principles to the constitution and affections peculiar to the female sex is the object of the work before us; a work in which the elements of health in this point of view are so clearly delineated and ably enforced that we regret it will reach but few of those it is calculated to instruct in the means of avoiding premature decay, suffering, disease, and death, in themselves and offspring; that even of those by whom it will be consulted, so few will study and practice the precepts it inculcates. When we consider how difficult it is for the physician to secure, in all cases, a strict adherence to the therapeutic rules he lays down for the government of his patient when actually labouring under disease, it is easy to understand the still greater difficulty there is in inducing the young female to adhere to a proper hygienic course of living, whilst in the enjoyment of health, and amidst the numerous temptations to transgress held out by the allurements of pleasure, and the example and encouragement of those who surround her. The most that we can expect from a work like that of Dr. Tilt, so long as the principles of hygiene are neglected to be taught in our schools, is, that it may instruct some prudent mothers in those things which "minister to the health, and physical, may we not say, also, to the moral well-being of her daughters," and induce her, by precept and example, to impress the importance of these things upon their minds, and cause their mode of living, whilst they remain under her control, to be conformed to them.

There is nothing new in the principles of female hygiene inculcated by Dr. Tilt; he has, however, arranged them in a manner well adapted to render their application to the physiological peculiarities of the several epochs of female life easily understood; while he has illustrated and enforced their truth by a frequent reference to recent and reliable statistics.

D. F. C.

ART. XVIII.—*The Obstetric Catechism; containing two thousand three hundred and forty-seven Questions and Answers on Obstetrics proper.*—By JOSEPH WARRINGTON, M. D. One hundred and fifty illustrations. Philadelphia, Barrington & Haswell, 1853: 12mo. pp. 445.

As an excellent manual of obstetrics, to serve during the student's course of pupillage, for an index to those particular points to which his attention is to be

especially directed, so that they may be fully understood and firmly impressed upon his mind, the work before us would receive our unqualified approbation. It is certainly a very able *resumé* of sound obstetric principles and precepts, well and clearly expressed. We regret, however, that the author has thought proper to give to the work the catechetical form. All manuals are liable to be abused, but none more so than those in the form of question and answer. The student will be apt to think that, when he has committed to memory the answers to the two thousand three hundred and forty-seven questions contained in the volume before us, he has actually acquired a *knowledge* of all those points in obstetrics to which these questions refer. It is in vain to tell him that it is from other sources and by prolonged application alone that a correct knowledge of obstetrical rules and practice can be acquired; he knows that he can answer all the questions put to him in his "text-book," and he rests satisfied, until called upon to test his knowledge in the parturient chamber; when, finding it necessary to act promptly in a case of emergency, and often when he has it not in his power to avail himself of other advice and assistance, he feels and deplores its insufficiency in the hour of need.

The recent rapid multiplication of manuals in all the departments of medical science, both at home and abroad, is to be deprecated. We fear that, so far from aiding the pupil in the prosecution of his studies, they are more likely to become an impediment to his acquisition, in a thorough manner, of that amount and degree of knowledge which can alone fit him for a skilful and successful practitioner.

D. F. C.

ART. XIX.—*On Near Sight, Aged Sight, Impaired Vision, and the Means of Assisting Sight.* By WILLIAM WHITE COOPER, F.R. C. S., Ophthalmic Surgeon to St. Mary's Hospital, Senior Surgeon to the North London Eye Infirmary, &c. &c. Second edition. London, 1853: 12mo. pp. 320.

THIS is an interesting little volume, written in a popular style, and evidently with a view to the instruction of the non-professional quite as much as the medical reader. Though it cannot be said to contain anything absolutely new, it embodies much information with which it is essential that the ophthalmic surgeon should be familiar, and which may be useful to those who labour under certain defects of sight, by assisting them in selecting the best mechanical means for improving their vision.

The volume is divided into seven chapters. The first is devoted to the consideration of *Myopia*—its varieties, causes, symptoms, and treatment. Some judicious remarks are made in reference to the use of glasses, position during study, children's books, school-rooms, the choice of a profession for myopic persons, &c.

In the second chapter, *Presbyopia* or aged sight is treated of; its symptoms, causes, and the best means of remedying it. With regard to spectacles, Mr. Cooper justly observes, the use "should not be deferred; for, although it is a common notion that spectacles are injurious to the eyes (and no doubt they are so if those of an improper description be employed), yet when the powers of the eye so begin to fail that we cannot read nor write for any length of time without great discomfort, it is reasonable to conclude that refraining from their use is more injurious than their adoption." Mr. Cooper also gives some very judicious advice for the preservation of sight, and which we should be pleased to quote did our space allow.

The third chapter is devoted to the subject of impaired vision from over-work; a very common affection, protracted in its duration and difficult of cure, and in regard to the best management of which, we regret to say, Mr. Cooper affords us no new light.

A brief account of that very curious defect of sight, the inability to distinguish colours, occupies the fourth chapter.

Chapter fifth is devoted to the subject of glasses. The effects of the different

kinds of lens on light are explained ; the history of spectacles is related, with a description of the different kinds, and excellent directions are giving for choosing them.

In the sixth chapter, interesting descriptions are furnished of the different kinds of eye protectors; and in the last chapter, the subject of artificial light is discussed; the cause of its being injurious to the eyes is explained, and some useful suggestions made relative to the means of obviating these injurious effects.

ART. XX.—*On Diseases of the Liver*.—By GEORGE BUDD, M. D., F. R. S., Professor of Medicine in King's College, London, and Fellow of Caius College, Cambridge. Second American from the last and improved London edition, with coloured plates and wood-cuts. Philadelphia, Blanchard & Lea, 1853 : 8vo. pp. 468.

THE treatise of Dr. Budd is too well known to require us, in a notice of this second edition, to enter into an examination of the manner in which the author has accomplished his task, and of the general accuracy of the views advanced by him in reference to the several diseased conditions of the liver, their pathology and therapeutics. The work has been well received by the profession, as one calculated to render more certain the diagnosis of the leading hepatic affections; and their treatment, in consequence, more rational and satisfactory. We have great pleasure in indorsing this favourable opinion. A careful examination of the present improved edition confirming the correctness of the estimate of the treatise of Dr. Budd, expressed by us on the appearance of the first American edition.

D. F. C.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On the Mode of Dissecting the Ear for the purpose of Pathological Investigation.* Mr. TOYNBEE read the following observations before the Pathological Society of London:—

The best mode of removing the ears for the purpose of dissection is (the calvaria being sawn off in the usual way) to take both out together by means of two transverse vertical sections. The anterior of these sections should pass in a line a little anterior to the anterior clinoid processes, and the posterior in a line through the posterior third of each mastoid process. By means of these two sections, the trumpet-shaped extremity of each Eustachian tube, a portion of the mucous membrane of the fauces, and the whole of the remaining portion of each organ of hearing, can be taken out. The disadvantage attendant upon this procedure is the disfigurement which is apt to take place by the falling backward of the face. To avoid this disadvantage, another mode of removing the ears has been more usually resorted to, and this consists in taking out each petrous bone separately, in the following manner: The calvaria having been sawn off, an anterior section is to be made from without inwards on each side on the same line as in the first plan, but extending as far as, but not through, the body of the sphenoid bone; a posterior section on each side is then to be made in the same line as in the first plan, but not extending through the basilar process of the occipital bone; the apex of each petrous bone is then to be separated by a chisel or saw from the sphenoid and occipital bones; and each petrous bone, the outer ear and integuments being detached from it, is then to be drawn upwards, taking care to remove as much of the soft parts as possible. With this second plan there is a difficulty in removing the whole of the guttural portion of the Eustachian tube; with care, however, this may be effected, especially if the final sections separating the petrous bones from the occipital and sphenoid be made to pass obliquely from above downwards and inwards. The organ of hearing having been removed, the dissection may be conducted in the following manner: The auditory nerve in its meatus should be first carefully examined.¹ The external meatus is to be inspected by removing its anterior wall by means of cutting-forceps.² The state of the epidermis, the ceruminous glands and secretion, the dermis periosteum and bone, are to be noticed. The outer surface of the membrana tympani is then to be examined, as well as the state of its epidermoid and dermoid laminæ, the degree of

¹ It is desirable to remove for examination the part of the base of the brain to which the portio dura and portio mollis nerves are attached.

² It is requisite to have two or three pairs of these forceps; they are made by Messrs. Ash, of Broad street, Golden square.

tenseness it possesses, and the amount of motion possessed by the malleus when it is gently pressed upon by means of a fine point. The next step is to examine the guttural orifice of the Eustachian tube, to lay open the cartilaginous tube with the scissors, and then to expose the cavity of the osseous portion by means of the cutting-forceps. In doing this, the tensor tympani muscle is exposed; its structure should be examined, and, if it have not a healthy appearance, portions of it should be submitted to microscopic inspection. The upper wall of the tympanum is next to be removed by the forceps; in doing which, great care must be taken not to disturb or disconnect the malleus and incus, which lie immediately beneath it. When the tympanic cavity is exposed, the first thing is to draw the tensor tympani muscle, and to observe to what extent its traction makes tense the membrana tympani, and moves the ossicles. The incus and stapes are now to be gently pressed with a fine point, so as to ascertain their degree of fixedness; the tendon of the stapedius muscle is also to be pressed. The condition of the mucous membrane of the tympanum and mastoid cells is next to be examined, and any peculiarity of the cavity, the existence of bands of adhesion, &c. &c., noted. The most delicate part of the dissection has now to be undertaken, viz., that of the internal ear. The first step consists in exposing the cavity of the cochlea and vestibule, by removing with the cutting-forceps a small portion of the upper bony wall of each. Before reaching the vestibule, the superior, semicircular canal will be cut through and removed, and the membranous canal should be carefully drawn out of it and examined. Upon inspecting the cavities of the vestibule and cochlea, it is desirable to see that the quantity of perilymph is natural, as well as its colour and consistence; the outer surface of the membranous labyrinth having then been looked at, it should be opened, so as to expose the endolymph and oticonia, and portions of the membranous labyrinth should be submitted to microscopic investigation. This having been effected, the remaining membranous semicircular canals are to be exposed, and the connection of the base of the stapes to the fenestra ovalis carefully examined. The last stage of the dissection consists in removing portions of the cochlea, in examining them microscopically, and in exposing from within, by following the course of the scala tympani, the membrane of the fenestra rotunda. The only organ which now remains unexamined is the stapedius muscle; to expose it, the course of the aquæductus Fallopii, beginning at the stylo-mastoid foramen, should be followed until the base of the pyramidal eminence containing the muscle is reached.—*Med. Times and Gaz.* March 5, 1853.

2. *Cell-Development.*—The extra-cellular development of cells, a condition admitted only by a few authorities in vegetable physiology, has been very extensively received in the domain of animal physiology and pathology, more especially since the promulgation of the cell-theory by Schwann. Remak has, however, from an early period, been strongly opposed to this doctrine, and has pointed out difficulties against its adoption, which are to be found, as he maintains, even in the writings of its chief supporters. In a recent communication on the subject,¹ this author cites many examples of admitted cell-development by segmentation—segmentation of the vitellus (Schwann), by formation of daughter-cells in the growth of organs, and the transformation of embryonal cells into tissues, epithelium, blood-cells, and muscular fibres (Reichert). He also calls attention to the absence of free nuclei in embryonal cartilage (Kölliker), and in the deeper layers of the epidermis (*idem.*). J. Müller has likewise observed that endogenous cell-formation plays a large part in pathological anatomy. Remak himself considers the extra-cellular development of animal cells as improbable as the equivocal generation of organisms. As the result of a series of investigations undertaken to determine this question, he states that he has observed the propagation of the blood-corpuscles to take place by segmentation in the embryos of birds and mammalia; in the larvæ of frogs he has seen the striped muscular fibres to originate in the longitudinal division of cells. Observations, since more extensively prosecuted, have satisfied him that this is

¹ Müller's Archiv. No. i. p. 47, 1852.

the general method of transformation of the embryonal cells into tissues. He gives the results of researches on the segmentation of the vitellus and the division of its cells. The cells he believes to pass subsequently into permanent tissues; thus the primary vessels are at first solid cylinders, consisting of embryonal cells united together, the external of which form the walls of the tube, while the central or axis cells pass into blood-corpuscles. He considers this theory applicable to pathological as well as normal histogenesis.—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

3. *Blood*.—M. Lecanu presented to the French Institute (July 5, 1852) a memoir on the blood, in which he takes up the solution of some highly important questions, viz., the origin of the fibrin; the separation of the globules from the other constituents, and the determination of the chemical constitution of the globules. Having satisfied himself that a concentrated solution of sulphate of soda, which prevents the precipitation of fibrin, is without action on the globules, he received a quantity of blood into a solution of sulphate of soda, at a temperature of 12°, and marking 12° Baumé. The mixture was then filtered; the globules remained on the filter, while the serum passed through; from the latter, on the addition of eight or nine times its volume of water, the fibrin was precipitated in gelatinous filaments, scarcely a trace of it remaining in the filtered liquor. As it is subsequently shown that the globules contain but very little fibrin, and that only in their envelops, it follows that this substance is contained in the serum chiefly. In order to obtain the globules perfectly free from serum, it is only necessary to allow them to remain on the filter, and wash them with the saturated solution of soda. When obtained thus, M. Lecanu finds that they consist of not less than eight different substances: 1. Hæmatosin; 2. Globulin; 3. A very small quantity of albumen; 4. A fibrinous matter, constituting their envelop; 5. An animal extractive matter, soluble in ether and alcohol; 6. A fatty matter; 7. Various salts, amongst which are chlorides, phosphates, and alkaline carbonates; and 8. Water, which holds all these matters, with the exception of the envelop, in solution. Water, it is well known, breaks up the globules, leaving their envelops isolated, and dissolving their contents; by boiling this solution, the globulin, hæmatosin, and albumen are coagulated. Hæmatosin is soluble in alcohol and ether at ordinary temperatures, giving to the solution a beautiful red colour of blood, and by spontaneous evaporation forming small lamellæ of a metallic lustre, and an amethyst colour, exactly like the red silver of mineralogists. M. Lecanu believes in the presence of iron in the blood, but does not express himself definitely as to its particular mode of combination. (He suggests, with regard to hæmatosin, that there is reason to think that it would be an excellent substitute for the combinations of iron exhibited in chlorosis and other affections. The difficulty of procuring it in sufficient quantity is, however, considerable; the largest quantity he obtained being about 30 grains, from somewhat more than one pound and a half of ox blood.) With regard to albumen in the globules, the commissioners appear to think that as it is in such very small quantity in these little bodies, swimming in a highly albuminous fluid, its presence in them may be due to absorption or endosmose. The following contrast between the two chief constituents of the blood is highly interesting and valuable: "It results," say the commissioners, "from these observations, that the animal matters which compose the serum are essentially different from those which compose the blood-corpuscles. The serum contains albumen and fibrin: no globulin—no hæmatosin; the globules, on the contrary, contain hæmatosin and globulin, with a fibrinous matter, but no fibrin, and only a little albumen."—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

4. *Effects of Chloroform on the Blood*.—Mr. DE CHAUMONT read before the Edinburgh Physiological Society the following communication:—

Much controversy has arisen as to the real nature of the effect of chloroform on the blood. Amussat, Sédillot, etc., have contended that the blood is darkened by it, and that the effect is quite analogous to asphyxia. Gruby, on the other hand, contends that not only is the arterial blood not darkened but, that

the venous blood is even rendered as bright as the arterial. I have found that when blood is agitated with chloroform it does not coagulate, but becomes quite transparent; and when the blood is venous the colour is rendered as brilliant as that of arterial blood. Sulphuric ether, on the contrary, does not affect the colour of venous blood. Chloroform seems thus to have a special effect of brightening colours, not only in this but in other cases; as, for instance, when it dissolves iodine, the solution has not the deep-brown colour obtained when water, alcohol, etc., are used, but has the beautiful violet hue of the vapour. In some cases chloroform restores the colour of old blood-stains on linen, etc., but the effect is not constant. When blood, acted upon by that agent, is examined by means of the microscope, the red globules are found completely dissolved, the field presenting only a homogeneous coloured expanse, in which the white globules float unaffected. Chloroform acts on pus very similarly to acetic acid, as it brings into view the double and tripartite nuclei of the globules, although the effect is not so speedily accomplished as by acetic acid. When the blood of leucocythemia is acted upon, the red globules dissolve, and the white present the reaction not of the ordinary white globules of the blood but of pus. With the view of observing the effects of the administration of chloroform on the blood in the living body, I attempted to anesthetize a rabbit by the rectum, so as not to interfere with the respiration. Although two drachms were injected, no other effect was produced except an intoxicated appearance, which did not give immunity from pain. This corresponds with what was observed by Flourens in the early days of etherization. Another rabbit was anesthetized by inhalation in the ordinary way, and died suddenly during the operation. On opening the body the lungs were found florid, and without trace of asphyxia; the auricles of the heart continued to contract for an hour after death; the peristaltic action of the intestines and bladder continued also with tolerable vigour. Venous blood from this animal presented the same reactions as before mentioned. The next experiment was upon mice. Four of these animals were placed alive in a wide-mouthed bottle, and a few drops of chloroform poured into the bottom of the vessel. This speedily caused a great excitement among them, and they soon after died. The examination of their bodies showed the same signs as in the rabbit. The brain was also normal. Another rabbit was anesthetized by the lungs, and the crural vessels of the right leg exposed and carefully watched during the whole process of inhalation, but without there being any evidence of change in the colour of the venous or the arterial blood. In this animal also an attempt was afterwards made to induce insensibility by the rectum, but without success. The chloroform was in this case mixed with water, and the intoxicating effect produced was greater and continued longer than in the former. The temperature was also apparently lowered, although no exact observation by the thermometer was made. Duméril and Dumarquay have stated that the temperature is lowered in anesthesia, and under the influence of ether and alcohol, distinguishing the effects of these agents from common narcotism, as by laudanum, in which the temperature is raised. This last rabbit died after a few hours, and the *post-mortem* appearances showed that death had been occasioned by acute peritonitis. Here, too, there were no signs of asphyxia, the lungs being of a bright rose colour. In the liver was found a cyst, containing a white putty-like mass, which, under the microscope, showed beautiful oval-shaped cells containing a round nucleus, with several, generally three, oval nucleoli. These, Dr. Bennett informed me, were entozoa. The action of chloroform on them was curious; the nucleus swelled up so as to fill the cell, while in another part of the field were seen cells floating empty, and nucleoli floating about in threes, joined by filaments. Hence, it seemed as if the nucleus had alone been dissolved, a curious fact when taken in connection with the solution of the red globules of the blood, these being also considered as nuclei.

The above experiments were all subsequently confirmed by a committee of the Royal Medical Society, by whom it was also observed that chloroform dropped upon the intestines and bladder caused violent peristaltic action, and that dropped upon the heart, while that organ was contracting, it caused a cessation of the pulsations until it had all evaporated, having a temporary paralyzing effect on that organ.

From the above experiments I am inclined to think that chloroform does not act by asphyxia, and that, when this does occur, it results from the manner of the administration; that its action is directly upon the nervous centres, first upon that part connected with the perception of sensation, and lastly on the spinal cord, or generator of motive force; that although it arterializes the colour of the venous blood out of the body, I have not yet been able to observe the same effect in the body; and that, on the other hand, the arterial blood is in no way affected in colour by its inhalation.

Dr. BENNETT referred to a report on the action of chloroform drawn up by himself, and printed in the *Transactions* of the Edinburgh Medico-Chirurgical Society about the time when chloroform was introduced as an anæsthetic. (*Monthly Journal*, Jan. 1848.) The results of the experiments there detailed were similar in some respects to those of Mr. De Chaumont.

Dr. MATHEWS DUNCAN remarked, that rabbits were not good subjects for experiments with chloroform, on account of the rapidity with which fatal effects succeeded the anæsthesia. From recent trials, he was convinced that chloroform introduced into the stomach could produce anæsthetic effects.—*Monthly Journal of Medical Science*, May, 1853.

5. *Conserve on the Pleura*.—Dr. GAIRDNER exhibited to the Edinburgh Physiological Society a portion of tubercular lung, in which perforation had probably taken place, establishing pneumothorax. In the pleural surface were developed a large number of white circular deposits, varying in size from extreme minuteness to $\frac{1}{4}$ th of an inch diameter, and extending about $\frac{1}{4}$ th of an inch into the substance of the lung. Under the microscope, they presented a structure of the lowest fungoid type, consisting of a mass of very minute oval bodies, sometimes arranged in linear groups of three or four, and insinuating themselves between the fibres of the original tissue. After remaining in contact with a portion of kidney for two hours, similar deposits were found on its surface; but on farther exposure for several days, to air and moisture, they were observed to have undergone no change.

Dr. BENNETT remarked, after examining the preparations, that the vegetable growth now exhibited was the most simple in its formation ever yet described, and was exceedingly interesting in a histological point of view.—*Monthly Journ. of Med. Science*, May, 1853.

6. *Trichina Spirales*.—Dr. W. T. GAIRDNER exhibited to the Edinburgh Physiological Society specimens of trichina spiralis in the pectoralis major and muscles of the thigh, of a man, æt. 60, who died after an injury, apparently from purulent infection of the blood. Nothing was known of his previous history as regards the muscular system.

The parasite was found in all the voluntary muscles examined, and generally in all the muscles having striated fibre, except the heart. Several of the worms were found in the recti muscles of the eyes, and in the constrictors of the pharynx, as well as in the upper part of the œsophagus. The cysts inclosing the parasite appeared to be disposed in the interstices of the muscular fasciculi, which were in no case observed to be subdivided by the foreign body. The cysts were almost universally quite opaque from calcareous matter, so that the contained worm could only be seen after steeping the fibre in dilute muriatic acid. Surrounding the spindle-shaped extremities of the cysts, there was seen, almost invariably, a number of rounded yellowish vesicles, having the character of fat vesicles of very small size. The muscular fibres, although rather dry and pale to the naked eye, presented nothing unusual under the microscope.

The structure of the parasite has been carefully studied by various members of the Society. Dr. G. referred to Dr. Sanders and Mr. Kirk for a description of some points in more detail. His own observations had borne out generally the descriptions of Owen.

The animal was evidently a nematode worm, without any very distinct internal organs, and spirally coiled up within a double cyst, of very constant appearance and form. Dr. G. said he had not been able to detect more than two layers in the cyst; but it was possible the inner layer (which according to his

observations, was of considerable thickness and transversely nucleated) might have yet another thin hyaline membrane on its internal aspect. Both layers of the cyst were spindle-shaped externally; but the cavity in which the worm floated was quite spherical, and filled with a granular matter. The whole appearance of the parasite was such as seemed strongly to bear out Owen's view, that it was merely the first stage of an animal destined for farther development. Dr. G. thought it very probable that the muscle was only the hotbed of ova, which, for their development into perfect animals, required some other habitat. Considering it to be not unlikely that this farther development of trichina might take place in the intestinal canal of some carnivorous animal, Dr. G. had sent specimens of the muscles of this man, in the fresh state, to Mr. Barlow, who had kindly consented to take up the inquiry, and had accordingly administered portions of the muscle to dogs and cats, which he intended to keep under notice for some time, if possible. Should any results of importance accrue from this experiment, Mr. Barlow would lay them before the Society.

According to Dr. Sanders's observations, with which those of Mr. Kirk mostly agreed, the arrangements of the cyst comprised: 1. An external cyst of fibrous tissue in which the mineral matter was lodged; it was generally of an elongated spindle-shape, but in some apparently younger cysts was more rounded. Internal to this was; 2. A tolerably thick layer of a white transparent homogeneous substance, which did not present any distinct structure; but, under the action of reagents, as hydrochloric acid, exhibited concentric marks. This substance filled the space between the outer elongated, and 3d. The inner spherical cyst, which contained a granular material, and one, rarely two, trichinæ closely coiled up. This inner cyst was much smaller than the outer one. When well seen, it presented a very finely striated appearance, which Dr. Sanders thought was owing to minute cilia, but which was considered to indicate fibres by Mr. Kirk and Dr. Gairdner.

When the granular matter contained in this inner cyst was effused, it consisted of a plasma, some granular matter, and cells, generally clear, with a single small nucleus, sometimes larger, and containing granules. Mr. Kirk thought that these cells were arranged as an epithelium on the interior of the inner cyst.

In the white homogeneous substance placed between the outer and inner cysts, there was sometimes observed, near the narrow end of the cyst, a small round body or vesicle, generally surrounded by granular matter. It was also noticed that a small cyst was occasionally attached at the spindle-shaped end of a larger one; in some examples conveying the notion that the extremity of the cyst had become elongated, and had afterwards separated to form a new one. It is, therefore, possible that, by means of the vesicle just mentioned, and the process of elongation and division, the trichinæ may be propagated, although it is obvious from the great multitudes of them, and uniformity in their appearance and stage of growth, that some general method of deposition must have taken place. The blood and the surrounding muscular texture were examined, without any traces of their ova being found.—*Monthly Journ. of Med. Science*, May, 1853.

MATERIA MEDICA AND PHARMACY.

7. *The Oil of the Jatropha Curcas, or Physic Nut, as a Purgative, and the Oil and Leaves as a Counter-Irritant.*—Various physicians have at different times made trials with the expressed oil of the *jatropha curcas*, in the hope that they might be able to find it a useful purgative; and recently the inquiry has been renewed. A brief summary of the information which we possess on this subject may, in these circumstances, prove interesting to our readers.

All experimenters agree in admitting the purgative properties of the oil; but a remarkable disparity of opinion exists as to the *degree of potency*, and the *uniformity of the effects* which it causes.

The *Jatropha curcas* belongs to the Euphorbiaceæ. In Jamaica, the tree, as well as the fruit, goes by the name of *physic nut*, by which name it is likewise described by Christison and others, in treating of the medicinal plants of the family. The fruit is also known as the *nux cathartica Americana* and *nux Barbadosensis*. The fruit is a violent irritant poison, and numerous cases of accidental death occur in the countries where the tree grows, from children picking up and eating the seeds, as three or four are quite enough to prove fatal. "The oil (*Oleum Jatrophae Curcadi*, seu *Oleum Infernale*)," says Pereira, "is analogous in its properties to croton oil. It is occasionally used as a drastic purgative. In India, it is used for lamps." Guibourt obtained a purgative oil from seeds described as often rancid; but he must have met with damaged specimens from South America. Seeds gathered at one of the Cape de Verd Islands were examined by M. Leconet in 1850. Under pressure, they yielded 20 per cent. of a coloured oil, of which ten or twenty drops were enough for a dose. (*Arch. Gén.*, Jan. 1853.) A medicine of middle power, between castor-oil and croton-oil, seems thus to have been obtained. Dr. Christison, in his *Dispensatory* (third edition, 1848), says that he has found, from many experiments, that one sample, expressed from Barbadoes seeds, acted precisely like castor-oil in the dose of ten, fifteen, or twenty drops; but that another, from Jamaica seeds, sometimes caused the same severe sickness and watery evacuations as croton-oil; and, at other times, was inert in the dose of thirty drops. The explanation of the varying results is not easily given; but we are inclined to attribute the occasional weakness or absence of purgative properties to the oil having been prepared by heat or from damaged seeds.

We have not found any particulars of the oil having been used as a counter-irritant; but it possesses rubefacient or irritant properties more or less resembling those of croton-oil. The leaves possess rubefacient powers.

In *Gray's Sup. to Pharm.* by Redwood, it is stated that "the leaves are rubefacient and discutient: warmed and rubbed with castor-oil, they are applied by the natives of India to inflammations when suppuration is wished for."—*Ass. Med. Journ.* April 1, 1853.

8. *Ointment of Mucuna Pruriens as a Counter-irritant.*—M. BLATIN proposes (*Revue Médico-Chirurgicale*, Jan. 1853) the substitution of *mucuna pruriens* (cowhage) for tartar-emetic or croton-oil, as the active ingredient of ointments intended to act as cutaneous irritants. The proportions are, seven grains and a half of the hairs of cowhage to an ounce of lard. The ointment must be rubbed in from ten to twenty minutes; seven or eight grains are usually sufficient. The immediate effect is the production of a sensation resembling stinging with nettles; but the burning sensation and the itching diminish during the friction, and entirely pass off in less than half an hour. The skin generally becomes covered with white flat papulæ, which soon disappear, leaving a sensation of heat. The effect is due to the mechanical irritation of the hairs. This system of counter-irritation has, we are told, produced no inconvenience; children bear it easily. The indications for its employment are the same as for the use of tartar-emetic or croton-oil ointment.

M. Blatin believes cowhage ointment to be a good medium for the endermic application of various substances, such as hydrochlorate of morphia.—*Assoc. Med. Journ.* April 1, 1853.

9. *Antiseptic properties of Iodoform; Inhalation of its Vapour in Phthisis.*—Iodoform, according to RIGHINI (*Journ. de Chim. Méd.* Feb. 1853), is possessed of remarkable antiseptic and antispasmodic properties. He tried it in a silk manufactory, by distributing vessels containing small quantities, either in powder or diffused in water, through different parts of the establishment; and he found it effectual, with the advantage, moreover, of not incommoding the work people. As a hygienic resource in hospitals, he recommends that it be employed in the following manner:—

A soft paste is made, by moderately heating sixteen parts of starch in a sufficient quantity of distilled water, and stirring them with a wooden spatula. Eight parts of iodoform having been added, the mixture will be found to be

readily absorbed by filtering-paper. The paper prepared in this way is cut into strips three or four inches wide, and suspended in the wards. The iodoform slowly escapes without causing any inconvenience to the inmates. It is most freely liberated in moist states of the atmosphere. M. Righini recommends iodoform-paper for the purpose of obviating the bad smells and noxious effluvia of slaughter-houses, and also for preserving meat from spoiling.

M. Righini states that the inhalation of iodoform dissolved in ether is of great service in retarding the progress of phthisis.—*Assoc. Med. Journ.* April 1, 1853.

10. *Butter as a Substitute for Cod-Liver Oil.*—The *Union Médicale*, for May 3, quotes the following from the *Répertoire de Pharmacie*.

Cod-liver oil is an aliment which restores and reconstitutes the tissues; in a word, it is an analeptic medicine, by the aid of which the disorganizing action of tubercle is combated. The only inconvenience attending its use is, that it is sometimes difficult of digestion. In this case, M. TROUSSEAU substitutes with advantage for it, the following compound:—

Fresh butter	.	.	.	.	.	.	.	.	3iv.
Iodide of potassium	.	.	.	.	.	.	.	.	gr. ʒ.
Bromide of potassium	.	.	.	.	.	.	.	.	gr. iiʒ.
Common salt	.	.	.	.	.	.	.	.	ʒss.

This butter is eaten during the day on very thin slices of bread.—*Association Medical Journal*, May 6, 1853.

11. *Albuminate of Iron and Soda.*—In the *Bulletino delle Scienze Mediche di Bologna*, for November and December, 1852, as quoted in the *Dublin Quarterly Journal of Medical Science* for this month, M. A. FABBRI suggests a method of meeting the difficulty often experienced in administering iron in the manner most suitable to the organism, and which has led to its being given by some in the metallic or oxidized state, and by others in compounds with inorganic or organic acids. He recommends the use of a compound of albumen (white of eggs), caustic soda, and sulphate of iron. It is prepared so that each ounce contains about four grains of the albuminate, *plus* an excess of albumen and soda.—*Ibid.*

12. *Hyposulphite of Soda and Silver.*—M. DELIOUX (*Bull. de Thérap.* xliii. pp. 289, 401) states that two years' trial of this substance, at the Marine Hospital at Rochefort, leads him to the conclusion that, in some cases, it may advantageously be substituted for the nitrate, as a much milder preparation. It is formed by pouring a solution of hyposulphite of soda over oxide of silver, recently precipitated by potass, until the oxide is entirely dissolved. Evaporation furnishes minute crystals of the hyposulphite of soda and silver, which are dried in a mild heat, sheltered from light. It is insoluble in alcohol, and very soluble in water, the solution being more slowly decomposed by light than that of the nitrate. Kept away from the light, its transparency may be indefinitely preserved. When quite pure, it does not discolour the epidermis or linen. It is less astringent and irritating than the nitrate, and may in several cases thus be advantageously substituted for it. It is especially in urethral discharges it has been found useful, solutions of 1 or 2 parts to 30 of water exciting less irritation than solutions of the nitrate of half the strength. He, however, usually employs it only in the proportion of $\frac{1}{2}$ to 1 part to the 100 of water. He has not used it internally.—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

13. *Galactagogue and Emmenagogue Effects of warm and stimulating Applications to the Mammæ.*—Dr. J. R. CORMACK endeavors to establish (*Association Medical Journal*, March 25, 1853), by the brief narrative of a few facts, the following propositions:—

1. Warmth and stimulants applied to the mammæ often act powerfully as *galactagogues*.

2. Warmth and stimulants applied to the mammæ often act powerfully as *emmenagogues*.

3. The leaves of the *bofareira* (or *ricinus communis*) and *jatropha curcas* act as galactagogues and emmenagogues; but not from their possessing any peculiar or specific power.

I. *Warmth and Stimulants applied to the Mammæ often act powerfully as Galactagogues.* CASE I. *Milk restored to the Mammæ by hot Fomentations.*—Last month, a lady, when nursing her infant, about seven months old, was attacked with acute bronchitis of moderate severity, which was successfully treated by low diet, and tartar-emetic in small doses. At the end of four days, the bronchitis was cured; but the milk, which had previously been failing, almost entirely left the breasts. On the fifth day, from exposure to cold, she experienced a relapse of the bronchial affection. As she had been considerably weakened by the previous attack, and as the symptoms of the relapse were not sufficiently severe to justify recourse a second time to antimony, I ordered her to take a draught containing ammonia and chloroform, as an anodyne, expectorant, and diaphoretic, every eight hours; and to carry out similar intentions, I also directed a succession of pillow-cases, filled with heated moist bran, to be applied to the chest. When I saw her on the following day, after this treatment had been employed, she told me that she had profusely perspired for some hours; she was (after copious expectoration) free from cough, and pain in the chest; and, what was equally a source of pleasure and surprise to her, *her breasts had become distended with milk.* This lady was able to resume nursing, and to continue it with the assistance of a suitable diet.

CASE II. *Effects of a Sinapism applied to one of the Mammæ of a lady, five months advanced in Pregnancy: effects of warmth in the same case.*—A lady was under my care for bronchitis, at the same time as the patient whose case I have just sketched. She was directed one night to apply a sinapism over the sternum, which she did; but having fallen asleep, it slipped to the side, and remained undisturbed for about an hour upon one of the breasts. For some days, this mamma was very much larger in size than the other, and its areola was also much darker. From the delicacy of this lady, and the unusual severity of the weather, I directed her to wear a double flannel jacket, and a wadded wrapper round the chest. She tells me that *the breasts are larger, and the areolæ much deeper in colour than they ever were in any of her ten previous pregnancies even at the full time;* and these conditions were established while her general health was exceedingly depressed by illness.

CASE III. *Stimulating Embrocation increasing the Supply of Milk.*—A lady, though in excellent health, had a very scanty supply of milk for her infant, when it was a few weeks old. She consulted me as to the use of means to remedy this evil; and I advised her to rub the mammæ gently, every six or eight hours, with an embrocation containing a small quantity of tincture of cantharides and oil of thyme, and to sheath the mammæ very warmly in wadding. *In a few days the milk was abundant.*

CASE IV. *Hot Poultices keeping up the Secretion of Milk when this was not desired.* A lady suffered, after her confinement, from a succession of abscesses and abortive abscesses in the breast. The surgeon who attended her treated her by antiphlogistic medicines, under which discipline she passed some wretched months, from mental and bodily depression, aggravated by hysterical attacks. The local affection did not seem to make any satisfactory progress; and the great obstacle to a cure was stated to be the impossibility of getting rid of the milk, in spite of saline purges being freely administered. The mammæ during the whole of the period to which I refer, had been ceaselessly treated, night and day, with hot poultices and medicated fomentations. These applications were abandoned, and a generous diet prescribed. *In a few days there was not a drop of milk in the breasts;* and the abscesses, actual and threatening, had ceased to give any pain, and had, in fact, almost disappeared.

I might refer to other cases, which I have vividly in my memory; but the above, which have occurred within the last three months, seem sufficient to establish the first proposition; viz., that *warmth and stimulants applied to the mammæ often act powerfully as galactagogues.* I need hardly add, that along with the use of such means, the regular application of an infant to the breast would greatly assist in reproducing lactation, as, according to the testimony of

various authors, this stimulus has of itself proved sufficient to restore the secretion of milk, and has actually caused it to flow, not only from virgins and other women who had never been pregnant, but even from males.¹ Excitement and sanguineous turgescence of the gland is induced; and these conditions afford to the organ both a power and a stimulus to perform its previously dormant function.

II. *Warmth and Stimulants applied to the Mammæ, often act powerfully as Emmenagogues.*—Warm clothing of the abdomen and limbs, hot hip-baths, and medicines which stimulate the bladder and rectum (such as ergot, cantharides, and aloes), have undoubted emmenagogue powers in properly selected cases of retarded or suppressed catamenia; and, indeed, they constitute, in various combinations, the principal measures by which the physician usually endeavours to excite the ovarian nîsus upon which menstruation depends. The observant physician knows well, that while his treatment is directed to the uterus through the ovaries, the effects produced upon the mammæ are generally very striking, and the first indications which he expects to find of the uterus being roused from its torpor are turgescence and tingling of the mammæ; phenomena which also usually precede normal menstruation. It is equally true, though not so familiarly understood, that measures which act directly and primarily upon the breasts, such as warm clothing to the bust, and the application of stimulants, not only cause them to swell and throb, but likewise stimulate the ovaries, and cause the menses to flow. The practice adopted by some practitioners, of applying leeches to the mammæ in amenorrhœa, owes its efficacy to fomentations used, and the irritation of the bites.

In 1834, Dr. Charles Patterson published, in the *Dublin Journal of Medicine*, a paper in which he described the emmenagogue power of irritation of the mammæ by sinapisms. This paper fell into my hands at the time of its appearance, when I was an Edinburgh dispensary pupil, practising, I believe, with more zeal than knowledge, and using, often with more confidence than discrimination, that plan of treatment which I had seen most recently or most enthusiastically recommended. In these circumstances, I successfully employed Dr. C. Patterson's method in amenorrhœa. The beneficial results which I then obtained, produced a very strong impression upon my mind as to the efficacy of irritation of the mammæ in producing menstruation; and the experience of nineteen maturer years has confirmed this impression.

As Dr. Patterson's facts do not seem to be referred to by subsequent writers, and as the practice which he recommends is so little noticed by authors, I subjoin an extract from his paper. Dr. Patterson writes as follows:—

"Mary Reardon, aged 24, of moderately corpulent habits, was admitted into the Rathkeale Hospital on the 10th of August, 1832. She laboured under slight synochial fever, which in a few days yielded to venesection and purgatives. On the 19th of August, symptoms which were considered of an hysterical character presented themselves, with pain in the upper and outer part of the right side of the chest. For the latter affection, a small sinapism was prescribed; but from inattention of the nurse, it was made so large that it covered a considerable portion of the mamma. The sinapism remained on for half an hour. At the visit on the following morning, the 20th August, Reardon complained that the right breast was exceedingly painful—the pain being very different in its character from that which she had before experienced. On examination, the whole side of the chest was found considerably swollen: there was slight diffused redness of the skin: and though the mamma itself was enlarged to four or five times its natural bulk, yet there was no circumscribed hardness, nor any tendency to suppurative inflammation. On the 21st August, the right mamma and adjoining parts of the chest were found much more enlarged than they had been at the preceding visit. The left mamma and side of the thorax were unaffected; and it was announced by the nurse that the catamenia had that morning appeared, and were then in considerable quantity. This discharge, which, as the patient stated, had been for two years

¹ Cases in which men have suckled children are on record. The essential character of the gland is the same in both sexes.

and a half wholly suppressed, continued to flow for two days; then it began to decline, and with it the tumefaction of the mamma gradually disappeared." (Pp. 193-194.)

Dr. Patterson's attention having thus accidentally been directed to mammary irritation as an excitant of the torpid uterus, he resolved to try its efficacy when a suitable opportunity presented itself. His next case is thus described:—

"Catherine Power, aged 19, applied to me on the 14th September 1832. She complained of headache, languor, loss of appetite, and inability to attend to her usual business, that of a servant. She stated, that about the middle of April, the menstrual discharge being then present, she incautiously exposed herself to cold in washing clothes at a river. The catamenia then suddenly ceased, and had not since returned; and from that period she had been constantly subject to ill health. She had consulted different medical gentlemen, and taken a great variety of medicine, with little advantage. I directed that the clavicular half of the right mamma should be covered with a sinapism. It was allowed to remain on for thirty minutes; and on visiting her in six or seven hours after its removal, I found the whole right breast considerably swollen, hot, and painful. The next morning, the enlargement of the mamma was very much increased, the tumefaction having extended to the clavicle and axilla of the irritated side. There was no hard circumscribed or prominent tumour, but a painful, diffuse, elastic distension of the mammary gland, and surrounding cellular substance. On the evening of the day next succeeding the application of the sinapism, this poor girl with much joy reported that the catamenia had appeared. The flux having continued for two or three days in moderate quantity, she then found herself greatly relieved of the headache and other most distressing symptoms; and in a week her health was so far restored, that she ceased to require any farther attendance." (Pp. 194-195.)

I am disposed to regard irritation of the mamma as a convenient and rapid agency for the induction of menstruation; but one which must neither be rashly nor indiscriminately employed. In numerous cases it may be used alone; but, generally speaking, it may be advantageously combined with other means.

In cases of acute suppression of the menses, I am in the habit of prescribing, along with sinapisms to the mammae, warm clothing of the bust and limbs, and the hot hip-bath every twelve hours.

In anæmic amenorrhœa, it need hardly be stated, that irritation of the mammae is only calculated to do good in conjunction with, or after a course of, a metallic medicine, such as some of the preparations of iron, manganese, or arsenic. In such cases, where we can trace a monthly ovarian nîsus, though there be no catamenial flow, these periods should be seized as the appropriate times for using the sinapisms, and then also we may sometimes, by venturing a few doses of forcing medicine, such as cantharides and ergot, bring the case at once to a favourable issue.

The emmenagogue effects ascribed to the application of the leaves of the ricinus communis, by Drs. McWilliam and Tyler Smith, can easily be understood, when we remember their irritative character, and the consequences which we have found to be induced by irritation of the mammae caused by other stimulants.

"When the breasts," says Dr. McWilliam, "are small and shrivelled, the plant is said to act more upon the uterine system, bringing on the menses if their period be distant, or causing their immoderate flow if their advent be near."

In the subjoined case, related by Dr. Tyler Smith, the effect produced may have been owing partly to the application to the breasts, and partly to the application to the genitals.

"I have used," says Dr. Tyler Smith, "the remedy in a case of scanty menstruation of a remarkable kind. Owing to exposure to marsh malaria some years ago, the patient had scarcely a sign of coloured discharge at the usual catamenial periods. She used the infusion of the leaves of the red bofareira at the date of her period, applying the infusion and leaves to the breasts, and the vapour to the genitals, with the effect of producing, in two days, a considerable flow of the catamenia."

III. *The Leaves of the Bofareira do not produce their Galactagogue and Emmenagogue Effects in virtue of any specific Property.*—The facts which have been already cited, point out pretty plainly that the effect of the leaves of the bofareira does not depend upon any specific property possessed by them; but simply on the determination produced by warmth and the irritative juices which they contain. That a good deal depends upon the mere warmth of the poultices, is sufficiently obvious. I have seen frequent examples in my own practice. I will not, however, enter into the particulars of these cases; but will conclude by mentioning two circumstances, which thoroughly corroborate this view.

In the *Boletin de Medicina, Cirujia y Farmacia* of 14th November, 1852, a short abstract was given of Dr. McWilliam's paper. In the same journal of the 19th December following, a correspondent writes to say, that in consequence of the notice which had appeared of Dr. McWilliam's paper, he had used fomentations of fig-leaves (*hojas de higuera*) to promote the secretion of milk in three cases, in which it had wholly or nearly ceased. In all the cases the benefit was decided. The Spanish practitioner wrote to confirm the practice recommended by Dr. McWilliam; but he has in reality, by using the wrong leaves, shown very clearly the galactagogue effects of poultices and fomentations, even when destitute of stimulating properties. I may likewise here state, upon the authority of a Spanish lady (with whom I conversed on this subject a few days ago), that in Cadiz, women are in the habit of bringing back the milk to their breasts after it has left them in consequence of weaning the child, or of any other cause, by means of drinking an infusion of the wild lupin (*altramuz*), and applying to the mammæ fomentations made with the same plant. This plant has no stimulant or irritative quality, and the efficacy of the poultices made with it must, as in the case of the fig-leaves, depend simply on heat and moisture, as in a common poultice. The internal use of the infusion might be dispensed with.

14. *Fomentations of Digitalis in certain kinds of Ascites.*—Dr. RAYMOND FALOT has published in the *Revue Thérapeutique du Midi* three cases of inflammatory ascites in which diuretics were not well borne by the stomach, and where fomentations with a decoction of digitalis-leaves produced marked action of the kidneys, and absorption of the fluid effused in the peritoneum.

The first case is that of a girl 24 years of age, who, after severe wetting, was attacked with subacute peritonitis and consequent ascites. Nitre and powdered digitalis had very little effect, and tapping to twelve quarts took place. As the liquid reaccumulated, fomentations were made with a decoction of two ounces of digitalis to a quart of water boiled down to a pint. The liquid was applied by means of compresses soaked in it, and covered with oiled skin to prevent evaporation. The kidneys acted very powerfully, and the effused fluid became completely absorbed. The same means also succeeded two years afterwards when the patient suffered again from ascites.

The second case refers to a boy 8 years of age, who had ascites after intermittent fever. Both the syrup and powder of digitalis were ill borne; the fomentations were used as above described, and the effusion disappeared, whilst the kidneys and skin were acting powerfully.

Third case.—A man, 50 years of age, suffered from ascites after a very severe attack of gastric fever. No sort of medicine could be borne; the digitalis fomentations were resorted to, and the same favourable results as in the previous cases were obtained in a few months. Dr. Falot states that he does not wish to give his mode of treatment more importance than it deserves, but that he was much struck with the coincidence between the use of the fomentations and the increase of the renal and the cutaneous secretions. In one of the cases, frictions with the tincture of digitalis had been used without success. The fomentations will certainly be worth a trial when the usual diuretics cannot be given by the mouth. The leaves should not be more than one year old.—*Lancet*, May 7, 1853.

15. *Chloroform, and its Administration.*—Mr. W. MARTIN COATES strongly cautions (*Lancet*, May 28, 1853) the profession against suddenly saturating the patient's system with the vapour of chloroform, and states his conviction that the dose usually recommended (one drachm at intervals) is unnecessarily large, and that to be safely administered it must be used in much smaller quantities. Mr. C. has found 15 minims of chloroform inhaled every minute to be a sufficient dose for an adult in from 3 to 6 doses. Under fourteen years, 10 minims is sufficient; under six years, 5 minims; under a year, three to five minims.

Mr. Coates's manner of administering chloroform is as follows:—

"The patient being ascertained to be free from affections of the brain, heart, and inflammatory affections of the lungs, &c., is freely purged the day before the operation, and his diet is limited on the morning appointed. Any article of clothing confining the throat or chest is let loose. The patient is desired to raise one hand, and to keep it raised as long as possible. Five minims is first given in Dr. Sibson's inhaler, to diminish the sensibility of the mucous membrane of the larynx. After a minute has elapsed, fifteen minims are added, and repeated every minute until the hand drops, and is not moved on the patient's being desired to raise it. I then commence the operation.

"The person managing the chloroform watches the pulse and respiration. On the former becoming weak, or the latter stertorous, the inhalation is discontinued until they become normal. On any indication, on the other hand, of sensibility returning, ten minims are added.

"It would seem unnecessary," Mr. C. remarks, "to insist upon the necessity of using so potent an agent in the smallest possible quantity consistent with success. What intelligent practitioner would give an unnecessarily large dose of opium, calomel, or arsenic? The same rule applies to chloroform, and the more cogently, that when danger arises it comes so suddenly that there is but little time for the application of treatment.

"Chloroform inhaled in small quantities of five, ten, or fifteen minims, is a general stimulant, and the first two or three doses, of fifteen minims, usually renders the pulse quicker and fuller. Whenever the pulse sinks in power even slightly, the inhalation is too rapid, and the chloroform is accumulating too quickly, or has been continued too long. When this is the case, it should be discontinued, for it is better to have an unsteady, or even a suffering, than a dying patient.

"In natural labour, I administer chloroform when the patient desires it, and circumstances do not forbid it. In operative midwifery, I recommend it. Its effect is to diminish uterine action, and to relax the os uteri and external parts; so that what is lost in one direction is gained in another. Of course, it destroys all voluntary effort. In natural labour, I never commence its use until the latter severe pains begin. I cannot approve of the keeping a patient for many hours under its influence. I think it desirable in these cases (of natural labour) to act upon the sensorium only, avoiding even more carefully the affecting the true spinal marrow, than in operations; this I do by giving first five minims, then, after the lapse of a minute, ten, and, if required, fifteen minims every succeeding minute until the patient becomes unconscious; an occasional ten minims given when consciousness threatens to return, is sufficient to keep up the then existing freedom from suffering without diminishing the uterine contractions to too great a degree. Patients who have been delivered under chloroform rarely suffer from after-pain; so much is this the fact, that I seldom have to give the usual opiate after such cases. The soreness of the labia and perineum after labour is much diminished by the ease with which they yield, under the influence of chloroform, to the pressure of the head of the child. I am now in actual attendance on a lady, whom I delivered under chloroform at the birth of her last child, and who has requested me to pursue the same practice in her coming confinement, upon the ground that she had suffered so severely from soreness of the labia in all her confinements previous to her last, but had not done so then.

"I believe that where this agent is used in the manner, and with the precautions I have recommended, no evil consequences will occur; but if it is administered in large doses, death will occur as in operations; and even where that

catastrophe is avoided, labour may be indefinitely prolonged. In operative midwifery, I administer the same quantities as in other operations, and I once kept a woman under the influence of chloroform during an hour and a quarter without the slightest evil consequences.

"In no case have I seen an unfavourable result, and in one case only have I been obliged to abstain; and as this case indicates a cause of danger, not, I believe, noticed by others, and leads to an improvement in practice, I will relate it. I was about to use the forceps in a woman pregnant for the first time, aged upwards of forty years, and having a contracted pelvis. I placed fifteen minims of chloroform in the apparatus, but immediately on my bringing it to the mouth and nose, she had a sense of suffocation and croupy inspiration, with venous suffusion of the countenance, which symptoms forced me to desist. The chloroform had evidently excited spasm of the muscles, closing the glottis, and I doubt not, had I persisted, my patient would have died asphyxiated. Since this case I have commenced, as above stated, with five minims, and then proceeded to ten or fifteen. This plan has succeeded well, by gradually diminishing the excitability of the nerves of the mucous membrane of the larynx; it also prevents that painful sense of constriction about the throat and chest, which, I remember, was in my own case very unpleasant.

"I think it right to state that, in experienced hands, a drachm of chloroform may be placed in the apparatus, and, by carefully regulating the valves, a quantity not exceeding ten or fifteen minims, may be administered; but a proper apparatus is not within the reach of all. Therefore a plan was still a desideratum, by which a person only moderately skilled may be enabled to administer it safely and effectually. Such a one I feel that I have proposed. Ten minims every minute will frequently produce complete insensibility to pain, and in cases where absolute quiet is not requisite, or where there is any reason to fear syncope, such doses are the best, as they raise the pulse, and in that way would diminish the danger from loss of blood, or even from fatty degeneration of the heart. Indeed, I think that where ordinary syncope occurs from other causes, and where the patient cannot swallow ordinary stimulants, an inhalation of five or ten minims of chloroform might prove beneficial as a general stimulant.

"Chloroform in repeated doses of fifteen minims is exceedingly useful in diminishing excessive uterine action, where, from its excess, or from rigidity of the external part, or from both, there is reason to fear rupture of the uterus or laceration of the perineum. It is in its action, when given in the above quantities, the antithesis of the ergot, and is of course useful in directly opposite cases.

"M. C. is satisfied that the handkerchief, piece of lint, and sponge, are inaccurate and dangerous chloroform inhalers. By them sometimes more, sometimes less is given than is intended or required. In truth, nobody can know what the quantity inhaled is; so much depends upon how the handkerchief is folded, what is the shape of the sponge, and the distance at which they are held from the mouth and nose."—*Lancet*, May 28, 1853.

16. *On the Recorded Deaths from Chloroform.*—Dr. CRISP read before the Medical Society of London, the following interesting communication:—

Although we may not agree respecting the propriety of the almost general administration of chloroform in surgical operations and during labour, all, I think, must admit the advantage of collecting, from time to time, the statistics of the deaths from this agent; and the period, I believe, is not far distant when the question respecting its general utility will receive the serious consideration of the medical profession. The benefits attending the administration of chloroform in many instances are undeniable, but the important inquiry has yet to be instituted, as to the preponderance of the good over the evil? and especially as to the consecutive influence of anæsthetics upon the constitution. In September, 1850, I had collected thirteen deaths from chloroform, beginning with the first at Newcastle, 1848. In August, 1851, the table had increased to sixteen, and, in February, 1852 (as stated at this Society), to twenty cases. It is now my intention to add to the former statistics the deaths that had occurred

before their publication, and were accidentally omitted, and those fatal cases which have been made public since the period alluded to. I may premise that I have reason to believe that many deaths, both immediate and consecutive, have occurred in this and other countries, from the use of chloroform, which are at present unknown to the profession. It is also fair to state that I was early prejudiced against the general employment of anæsthetic agents in consequence of having witnessed (in some cases) their fatal influence upon the lower animals; but more especially from having assisted, in 1847, at the autopsy of a gentleman, who underwent a tedious operation, under the influence of ether, by a late eminent surgeon. The patient had had one attack of asthma previous to the use of the knife. He died a few days after the operation, of congestion of the lungs, and apparently he never recovered from the effects of the ether. The following are the names of the countries and the places in which the forty-two recorded deaths occurred which form the present tables, so that the cases, which are published in the British and Foreign journals, can be referred to if necessary: England—London: Mr. Robinson, Stepney Union, *Dreadnought* Hospital-ship, Guy's, St. Thomas's, St. George's, St. Bartholomew's, and University Hospitals. Newcastle (the first case, January, 1848): Sheffield, Leeds, Shrewsbury, Chipping Norton. Scotland: Glasgow, Govan, Melrose, Edinburgh (case alluded to by Professor Simpson). Ireland: Cavan Infirmary. Australia: Melbourne, Ships *Mauritius*, *Hydrabad*. America: New York, Cincinnati, Boston (2), Chelsea, Newhaven, Massachusetts. France: Paris (2), Lyons, Langes, Strasbourg, Boulogne, Avignon, Orleans. Other countries: Bruges, Ulm, Stockholm, Berlin, Hanover, and Madrid. Besides these examples many could be found that might fairly be classed amongst the above; thus, it is stated, in Dr. Snow's paper, in the *London Journal of Medicine*, 1852, that three persons died during the French revolution, under the influence of chloroform; but, as the operations were of a grave character, Dr. Snow, perhaps with justice, excludes these cases. It must be observed also that if I had included the deaths from ether, the tale would have been greatly increased. I could also add many examples in which the life of the patient had been in great jeopardy from the use of this agent, but two or three will suffice. A strong, healthy butcher, aged thirty-seven, at St. Bartholomew's Hospital, when about to be operated upon by Mr. Stanley, inhaled chloroform for twelve minutes, and this not producing the desired effect, some was dropped upon lint, and applied to the nostrils; the pulse ceased at the wrists, and the patient appeared to be moribund, but by the speedy use of ammonia, cold air, and blows upon the epigastrium, the man recovered. The most instructive instances of this kind that I have met with are those related by Dr. Charles Dufour (*L'Union Médicale*, March, 1852). M. Ricord castrated a strong, healthy man, aged thirty-seven. Chloroform was administered on sponge, and the man suddenly, as in Mr. Stanley's case, appeared to be dying. M. Ricord immediately applied his mouth to that of the patient, continued artificial respiration in this manner for some time, and saved the man's life. M. Ricord stated that four similar instances had occurred to him, in which he successfully adopted this mode of treatment; but in another case, in which he did not pursue it, the patient died. But the question of vital interest is that respecting the ultimate effects of this agent. If one thousand patients are operated upon under the influence of chloroform, and one thousand women inhale it during labour, will these individuals be afterwards in as healthy a condition as the same number of persons who, under the like circumstances, have not been chloroformed? This is a question now difficult to answer, but it is one that deserves to be seriously considered. Does the avoidance of pain or of nervous disturbance compensate for the danger, immediate or consecutive, that may attend the administration of chloroform? In a report made to the Academy of Medicine by M. Jules Guérin (*Gazette Médicale*, 1853), relative to consecutive deaths from chloroform, M. Guérin says, "he believes that these cases are very numerous, and that, on making inquiries of many surgeons both in Paris and in the provinces, most of them have confessed that they have had occasion to regret the occurrence of these accidents." Mr. Warren, of Boston, in his address to the Medical Association of Cincinnati, 1850, remarks, "that he and his colleagues, after giving chloroform a fair trial, were induced

to return to the employment of ether, and he advised the general disuse of chloroform." But the fact which I am again especially anxious to impress upon the members of the Society is the danger arising from the cumulative action of chloroform; that this agent may, unobserved, be producing its poisonous effect, and that the addition of a few particles may so disturb the balance of the system as to destroy life. The table abounds with cases where the second administration of the drug, at a longer or shorter time after the first, has instantly produced a fatal effect. Let me give two examples amongst the many that might be quoted. In the sixth case in the table, half an ounce of chloroform was first used, and the chloroform repeated after two hours, when death instantly occurred. In the thirty-sixth case mentioned in the *Revue Thérapeutique du Midi*, February 7, 1852, a man had his thighs amputated for a gunshot wound. The operation was completed without any untoward symptom, but the patient, as he felt a good deal of pain in the stump, requested to be again chloroformed. After a few inspirations he began to vomit, recovered from his state of insensibility, and died after three hours, slight reaction only having taken place. I have been anxious to bring this matter before the Society, because I think that many gentlemen who are considered high authorities upon this subject have taken too partial a view of the question—an error many will think that I have myself committed; but if my remarks tend in any way to produce more caution in the administration of this powerful agent, my object will have been fully answered. The time has gone by when special pleading will long avail on this or any other subject connected with medicine; and if inductive reasoning is to be allowed in such inquiries, I think that I have obtained a sufficient amount of evidence to bear out the following conclusions: 1st. That, judging from the experiments that I have made upon the lower animals with chloroform, this agent will occasionally, and without apparent cause, produce sudden death; and that it cannot be administered to the human subject under any circumstances without some amount of danger, seeing that the fatal cases have generally occurred in young subjects free from structural disease. 2d. That, taking into account the ages of the patient, five of which are over forty, and twenty under thirty years of age, and coupling this fact with the circumstance that fatty degeneration of the heart is comparatively unfrequent in the young, it is a fair deduction, that this condition of heart, although detected in a few cases (three), had but little, if anything, to do with the cause of death. 3d. That chloroform acts directly and especially upon the nerves of the heart. 4th. That its administration during parturition is attended with less immediate danger, in consequence of the peculiar excitability of the cardiac nerves, but especially on account of the increase of the conservative power of the system, which often, at this crisis, under the most disadvantageous circumstances, enables nature to accomplish the great end. 5th. That the repetition of the dose, or its long continuance, has more influence, as regards the fatal result, than the mode of administration or the quality of the drug. 6th. That the deduction of the most practical importance is the fact that this agent is cumulative, that its fatal effects in many instances have not been exhibited until the administration of a second dose, and when the influence of the first was unapparent.—*Lancet*, June 4, 1853.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

17. *Pathology of Inflammatory Gangrene.* By J. H. BENNETT, M.D., Prof., &c.—Occasionally, a very large amount of blood plasma is thrown out, consti-

¹ Professor Simpson, of Edinburgh, has lately stated in a medical periodical "that the druggists of Edinburgh have sold, during the last four or five years, enough chloroform to the medical practitioners and the public to produce anesthesia in one or two thousand separate instances. Some of the midwives use it in their own practice, and one told Dr. Simpson that she had used it in about fifty cases."

tuting a violent inflammation; a greater or less number of capillaries are also ruptured, and blood-corpuscles are more or less mixed with the *liquor sanguinis* exuded. The exudation thus formed compresses the part, so as to obstruct the bloodvessels, and prevent the continuance of any circulation in it. Under these circumstances, instead of forming a blastema for the production of new structures, it undergoes chemical changes, which induce in it decomposition, and the part is said to be mortified, or to be affected with moist gangrene. This change commences first in the blood extravasated, which becomes of a purple colour more or less deep; the corpuscles break down and become disintegrated; their hematozine dissolves and colours the serum; and, should the exudation have coagulated, it forms brown, rust-coloured, purple, or blackish masses. An acid matter is now formed, which, acting on the neighbouring tissues, produces fetid gases that are abundantly given off from the affected part. Sulphuretted hydrogen is evolved, which causes the blackish sloughs usually observed in such cases, and discolours silver probes and the preparations of lead. After a time, the elementary tissues surrounding or involved in the exudation become more or less affected. The transverse striae in the fasciculi of voluntary muscles become first pale, and are then obliterated. Cellular tissue, fat, and other soft substances lose their connection, and fall into an undefined granular mass. The tendons and fibrous tissue retain their characteristic structure for a long time after the other soft parts have been reduced to a softened pulp. The bones resist the action longest, but at length become rough, soft, and commencing externally, are more and more broken down, and reduced to the same pulpy consistence and granular structure as the surrounding parts.

As the tissues thus become broken down and fluid, they are discharged from the system in the form of an ichorous matter, which, examined microscopically, presents numerous granules, imperfect or broken-down cells, blood-corpuscles, and fragments of filamentous tissue or the other structures involved. If the morbid action be seated in the subcutaneous tissue, the skin soon becomes involved, and an opening is formed, which rapidly increases, and gives vent to the discharge. In a similar manner, gangrene of internal organs, by destroying the intermediate parts, at length enables the discharge to reach the surface, or to find its way into the excretory passages, such as the bronchi, the intestinal canal, the meatus auditorius, &c. In this manner, life may be endangered by the destruction of organs necessary for its continuance, by the exhaustion resulting from the discharge, and sometimes by the absorption of the ichorous matter, which, on entering the circulation, acts as a poison to the economy.

It may be asked, whether inflammation and mortification are similar processes? whether the latter is only a greater intensity of the former? or whether, when mortification follows inflammation, it is dependent on other circumstances, such as a peculiar state of the atmosphere favouring the decomposition of the exudation poured out? In order to answer any of these questions, we must distinguish between mortification arising from a variety of circumstances, and an inflammatory gangrene, properly so called, the which is undoubtedly the rarest of all the terminations of inflammation. We frequently see mortification produced by the application of chemical or mechanical agents, which directly destroy the tissues. It also arises from severe and complicated injuries, in which arteries leading to the portions of structure affected have been divided or crushed. In old persons, it follows obstruction in the bloodvessels, or is dependent on circumstances not yet ascertained. In none of these cases is it caused by inflammation. But when stasis of the capillaries is produced to a considerable extent, followed by the exudation of a large quantity of blood-plasma, which, instead of passing into organization, undergoes the changes previously described, then an inflammatory mortification, properly so called, is produced. We see this take place after burns, a long exposure to frost, and in certain cases of erysipelas. Here the amount of exudation is considerable, the pressure caused by it extreme, the obstruction to the circulation in the neighbouring parts correspondingly great, and these, as well as the exudation itself, die. In this sense, therefore, it may be said to depend on the severity of the inflammation. This, however, is not the case in the sense of those who consider the adhesive, suppurative, and gangrenous inflammations as different

stages of one process. Suppuration, as we now know, has no connection with adhesion; it is opposed to it; nor is it in any way related to mortification, which must be considered as a primary alteration of the exudation. The vitality is lost, and instead of passing into organization, it at once becomes subject to the chemical laws of dead matter, and undergoes putrefaction.

Now, in order that organic substances should enter rapidly into putrefaction, it is necessary that they find sufficient oxygen and water for all their carbon to be transformed into carbonic acid, all their hydrogen into water, and all their azote into ammonia. When these conditions are not completely fulfilled, transition or intermediate substances are formed. When there is not sufficient oxygen, for instance, an excess of carbon is produced in the debris, and hence the black colour observed in mortified parts. There is also often developed a species of contagion, which causes parts undergoing decomposition to excite it in neighbouring ones (eremacausis of Liebig). This does not take place in dry gangrene. Thus, a gangrenous stomatitis (Cancrum oris) destroys, in a short time, a large portion of the soft parts of the lips and face; noma destroys the genitals of young female children. This appears to depend upon the quantity of destructive fluid or mixture generated in the process. A dry gangrenous foot, on the other hand, often requires several weeks before it has produced sufficient decomposition to be detached, and reached all the tissues to the bone.

But there are sometimes external causes which seem to produce mortification, independent of the amount of exudation, or the rapidity with which it is thrown out. During the summer of 1836, I watched with great care the progress of a sloughing gangrene, prevalent, not only in the infirmary of Edinburgh, but throughout the city generally. All kinds of sores and wounds were affected by it, even those of a specific nature, such as chancres, &c. Neither youth nor age was exempted from it. It affected not only those who were debilitated from disease by intemperance or by diet, but those also in the most robust health. Thus, a servant-girl, aged 16, who had never suffered from illness, and of a robust constitution, fell down upon some glass bottles, and slightly cut her left thumb. A week after, she entered the infirmary with an ulcer the size of a shilling, filled with a brownish-black slough, discharging a fetid and sanguineous fluid. In this, as well as other cases which occurred, it became impossible to attribute the gangrene to the violence of the injury, the amount of exudation, a state of cachexia, or indeed to any circumstances connected with the individual. It could not arise from contagion, as it originated simultaneously in different parts of the city in individuals who had no communication with each other, was not confined to the infirmary, and the system of dressing wounds there precludes the possibility of this explanation. We are, therefore, compelled to ascribe the cause to something without.

Most writers have noticed the connection between a certain state of the atmosphere and the prevalence of hospital gangrene and of dysentery. Its more frequent occurrence in summer and autumn—that is, at a period of the year when increased temperature favours the decomposition of animal matter. The good effects which result from change of air, when every kind of treatment fails, still farther point out its origin from changes occurring in the atmosphere. These probably depend upon some electrical state not yet explained, which powerfully influences the chemical combinations of the diseased part, and prevents cell growth. At least, such is what we may reasonably suppose from all the facts with which we are acquainted on this head. It is similar to blight among vegetables, the potato disease, and so on.

18. *Curative Treatment of Phthisis Pulmonalis, and the Modus Operandi of Cod-liver Oil.* Professor J. H. BENNETT read an interesting paper on this subject before the Edinburgh Medico-Chirurgical Society (Feb. 2, 1853), in which he entered at considerable length into an exposition of those facts, which, in his opinion, proved the curability of tubercle. He considered its pathology to be, first, a derangement of nutrition, dependent on an excess of the albuminous, and a deficiency of the oily constituents of the chyle; secondly, an impaired constitution of the blood; so that, thirdly, when exudations occurred, they assumed the form of tubercle. He then stated that, in conformity with these

views, he considered that the treatment of phthisis should be directed exclusively to the general system, and particularly to the correction of the impaired digestion and assimilation, while the local disease of the lung should in most cases be left to itself. The rule of practice, he thought, ought to be, an endeavour so to act on the digestive system as to improve the quality of the blood. This was to be accomplished, not only by giving animal oil (which, however, as the principle of nutrition that was deficient was directly indicated), but by attention to those circumstances which correct acidity in the alimentary canal, and stimulate all the nutritive processes, such as exercise, bathing, proper diet, mental occupations, &c. &c. He considered the ordinary palliative medicines as useless, and even injurious, because they frequently interfered with the main objects of cure—the correction of the acidity in the intestinal canal, and the introduction into the system of the normal products of assimilation. Beef-steaks and mutton-chops were all very well so far as they went, but experience had proved that, in the majority of cases, they could not be digested. By giving cod-liver oil we saved the stomach, as it were, the trouble of extracting and reducing fluid fat from the food; and, although a considerable quantity of it was not assimilated, a sufficiency was absorbed to increase the molecular basis of the chyle, and to give a stimulus to the better elaboration of blood. It was with this view that he administered cod-liver oil; and since its introduction into British practice, he had had the satisfaction to see it extensively adopted by practitioners in this country, some of whom, as, for instance, Dr. C. J. B. Williams, of London, had published theories as to the action of this remedy, identical, in all essential particulars, with the one advanced by him (Dr. B.). He then criticized at some length the remedies in common use, and pointed out that such as were beneficial operated by stimulating the nutritive functions. The good effects of change of climate, he thought, were to be entirely explained in this way, and not to any supposed action on the lungs. He concluded by announcing his intention of shortly laying his views and the result of his experience more at length before the profession, in a separate publication.—*Monthly Journ. Med. Science*, April, 1853.

19. *On the possible Prevention of Consumption and Scrofula by Oil-Inunction and Inhalation.*—Professor SIMPSON read a communication on this subject before the Edinburgh Medico-Chirurgical Society (Feb. 2, 1853). This communication was founded chiefly on evidence collected by Dr. Simpson from various parts of the country, to the effect that the children and young persons employed in wool-factories (in which large quantities of oil are daily used) were unusually exempt from scrofulous diseases and from pulmonary consumption. Dr. S. considered this immunity to be probably owing to the oily particles which, floating in the atmosphere, or attached to the raw material, entered the system by the lungs and the skin.—*Monthly Journ. Med. Science*, April, 1853.

20. *Treatment of Erysipelas with Iron.* By GEO. W. BALFOUR, M.D.—In consequence of having witnessed the cure of a case of erysipelas treated with iron, under the joint care of Dr. Charles Bell and myself, and also in consequence of Dr. Bell's assurance of its great and unfailling success, I was induced to give this method a trial, and this the more readily that opinions were very much divided regarding the proper treatment of this disease, and I myself had no great confidence in any. Since that time I have treated all my cases, upwards of twenty, with iron, and have had no cause to regret my doing so. On the contrary, erysipelas is one of the few diseases for which I now believe we have a certain and unfailling remedy, and this whether it be infantile or adult, idiopathic or traumatic.

The first case so treated was a highly scrofulous woman, with erysipelas of the scalp, arising from irritation of two large sores on it. She was cured in three days. The second was a man with erysipelas of the foot and ankle, cured in two days. The third was a case of traumatic erysipelas of the scalp in a woman; she was ill for a day or two before being seen, but was cured in about five days' treatment. The wound, a deep cut about three inches long, was healed within a week. In short, all the cases, many of them very severe, and

accompanied with high delirium, some of them phlegmonous, others vesicular, and several occurring in children, were cured in less than a week on the average. Suppuration took place in none but two, in both of which the treatment was not commenced till after effusion had taken place. Their convalescence was, of course, more tedious. The ninth day was that on which convalescence commenced even in the most severe cases, and *probably* the course of the disease would have been shorter even in them had the medicine been given more regularly; for so sure is it in its effects, that I can, with I may almost say absolute certainty, predict the state of the patient on ascertaining the quantity of the drug taken; and a glance at the bottle is fully as informing as to the state of the disease as a look at the affected parts themselves.

The tincture of the muriate is that preparation of iron I have hitherto employed, the dose varying with the age of the patient; the great object being to saturate the system with iron as speedily as possible, and to keep it so till the disease is abated. A few doses suffice to remove the pain, and lessen the heart's action; it acts also as a diuretic, and to some extent corrects the secretions, often cleaning the tongue as well as any purgative. It never produced headache nor other unpleasant symptoms, and was continued with advantage throughout the highest delirium. The only other remedy employed was an occasional purgative, and the local application sometimes of a warm poultice, and at others of simple flour, or starch powder and cotton wadding, the poultice being preferred, perhaps without much reason, when the situation or extent of the part affected did not throw difficulties in the way of its application.

Its principal curative action seems, as Mr. G. Hamilton Bell supposes, to be exerted on the capillary vessels; and for this reason, that while its diuretic action is equally well maintained by smaller doses, less frequently repeated, its curative action is not obtained unless the system be saturated with it, and kept so for some time. Farther, without denying that it may act as a renal purgative in disease, I may add that, from some experiments on myself, it does not seem to do so in health. The quantity of the urine was much increased, by fully a half, yet the quantity of urea was increased relatively and absolutely only to so small an amount, a grain or two in twenty-four hours, as to be far within the usual limits of aberration, and much too insignificant, supposing it to be real, to account for the wonderful curative agency of the drug. On taking twenty minims of the tincture every two hours, the second and third doses produced some slight degree of tension in the head, a symptom which subsequently ceased, and did not return. At this period, too, the pulse was slightly accelerated, possibly from nervousness; it afterwards came down from 80, my usual average, to 64. The iron was taken at intervals for four days, regularly every two hours for the last twelve-hours. Its diuretic action was always established within an hour after taking each dose; no iron could be detected in the urine, nor in the serum of the blood; but as this may depend on my want of refinement in chemistry, I am willing to give any chemist who may be anxious another opportunity by repeating the experiment; for I know no method of treating any disease more worthy of investigation, and none more deserving of adoption by the profession, than the treatment of erysipelas with iron. Some have supposed its efficacy to be owing to its *stimulant* action; that this is not the case was well shown in a case I had recently under my care—a young man labouring under scarlatina, who had a patch of erysipelas vesicular over the sacrum, and one over the right armpit. Neither of these were at all influenced by the carbonate of ammonia, employed in the treatment of the coexisting scarlatina, but yielded at once to twenty-four hours' treatment with the muriate of iron.—*Monthly Journal of Medical Science*, May, 1853.

21. *Prophylactic Powers of Belladonna in Scarlatina*.—The experience of physicians relative to the prophylactic powers of belladonna in scarlatina lead to very opposite conclusions.

At a late meeting of the Edinburgh Medico-Chirurgical Society (January 19, 1853), Dr. ANDREW WOOD remarked: "Recent observations, especially those made by Mr. B. Bell, of this city, in Watson's Hospital, seemed to prove that belladonna neither prevented scarlatina nor mitigated its symptoms. This con-

clusion completely tallied with what he (Dr. W.) had observed in Heriot's Hospital, where the experiment had been made in somewhat a different mode from that of Mr. Bell, as, instead of giving belladonna to all the inmates, he gave it only to one-half. The result was not favourable. In fact, the experiment was only continued a short time, in consequence of the occurrence of a fatal case (the only fatal one during an epidemic in which about forty cases of scarlatina were observed), and in which case the boy had had belladonna, in doses of one-eighth grain twice a day, for three weeks after exposure to infection.

Dr. NEWBIGGING said, that he had had the honour, during the Session of 1849, to lay before the Society a few observations on scarlatina, as it appeared during the epidemic of that year, more especially at John Watson's Institution, and referred to his experience of the apparent efficacy of belladonna as a prophylactic in this disease. Having ascertained that this substance had afterwards entirely failed in the hands of his friends, Dr. Andrew Wood and Mr. B. Bell, he did not consider that it was worthy of farther credit, and could not but feel regret at these results. A case of scarlatina occurring on the 4th of December, in the same institution from which Dr. Newbigging had drawn his former experience, he could not resist trying again the alleged efficacy of this drug. He accordingly gave it to those children, fifty-seven in number, who had not had scarlet fever, commencing it on the occurrence of the case alluded to. No farther instance of the disease has taken place. The child was removed immediately to the sick-room, and every precaution was taken to prevent contact; but the room reserved for the sick opens from the same corridor as the other dormitories, and therefore Dr. Newbigging believed that it was somewhat difficult to make a very perfect isolation. Dr. Newbigging stated that he was by no means anxious to adopt any one-sided or exclusive view on this subject; but he believed that a conclusive opinion would be best obtained by a series of well-recorded observations, on this as well as other points, in the history of a malady which occasionally proves so formidable. And he remarked, that great indeed would be the boon, should advancing science provide us with some such substitute, as vaccination was for smallpox.

In a recent number of the *Monthly Journal of Medical Science* (May, 1853), Dr. GEO. W. BALFOUR states: The sole vestige of Hahnemannism, which has ever insinuated itself into regular practice, is the question of the prophylactic powers of belladonna in scarlatina; and it becomes those who encourage its lingering amongst us to consider whereto it leads, for its basis, if it have any, is the so-called homoeopathic law, and evidence of its curative powers is as easily obtained, and of the same character with that on which its prophylactic powers are founded.

In June, 1851, an epidemic of scarlatina broke out in this neighbourhood. The first case was that of a boy who had been sent on a message to an adjoining parish, where no case of the disease at that time existed. On his return, he was seized with symptoms of British cholera, and the rash appeared the next day, the disease proving subsequently mild. The second case occurred in a house nearly a mile distant from the first one, on the day after the appearance of the rash on him. There had been no communication whatever between the houses, nor between either of them and any other case, so far as could be traced. Other cases, some of the most severe description, subsequently occurred, but not always in the persons of those who had been most exposed to contagion. At first, I was disposed to refer this to the prophylactic virtues of the belladonna solution, which, with the view of testing its supposed powers, had been supplied to the families of those attacked; but on reversing the conditions, by withholding the belladonna, I found the same thing still occurring, viz., that the disease passed by those in daily communication with the sick, and seized others who maintained as complete an isolation as possible—that at times the escape was final, for that epidemic at least; at others, at a subsequent and uncertain period, the disease returned, and seized the brothers, sisters, or other relatives, or cohabitants of those who had been sick, and this entirely without reference to whether they had taken or were taking the belladonna solution; some of the most severe cases having occurred in those who were taking it when seized; while others, who escaped entirely, though exposed to contagion, never got any.

Thoroughly convinced of its utter inadequacy to prevent the disease, I have never since prescribed it; yet recently I have had many single cases, occurring in families who had not previously had the disease, and in whom ordinary precautions, and, indeed, often very imperfectly carried out, sufficed to prevent the spread of the disease beyond the person of the individual first attacked. While thus denying all positive advantages to the belladonna, I believe it to have positive disadvantages; as a continuance of its use, even in the ordinary small doses, is sure to be followed by disordered digestion, foul tongue, etc.—not the most likely condition of body to ward off any epidemic; and, from personal experience of an earlier date, I know that no dose short of a poisonous one, even when continued for some time, has any other effect.—*Monthly Journal of Medical Science*, May, 1853.

22. *Analytical Report on the Treatment of Fever by large doses of Sulphate of Quinia*.—Dr. A. W. BARCLAY, Medical Registrar to St. George's Hospital, has published (*Medical Times and Gazette*, January 8, 1853) a short summary of all the cases of fever admitted into that hospital from the middle of May to the middle of November, so as to exhibit the comparative results of treatment when large doses of quinia were given, and when the ordinary method was followed.

The question, says Dr. B., is not whether under certain circumstances tonics are not required in fever, for that will be admitted by all who have learned that their patients will not bear loss of blood, and that the great object of the practitioner in anxiously watching a severe and dangerous case is to endeavour to obviate the tendency to death by sheer exhaustion; but the question is, whether, by giving very large doses of the salt, we can decidedly cut short the disease, and restore the patient to health and vigour in a few days, in place of waiting for it to run its course. It must be at once admitted that quinia has not this power in all circumstances, and that at all events cases do occur in which it is perfectly powerless to arrest the progress of the disease to a fatal termination. But it yet remains to inquire whether, in the majority of instances, it exerts any such specific power as in ague, or whether its employment, even without at once putting a stop to the febrile disorder, does yet in any way shorten its duration. And it must be confessed, that it is something strange to have learned that a patient may take between two and three drachms of the sulphate of quinia in twenty-four hours, either in pill or in solution, at the very height of a severe attack of fever, and yet suffer no harm from it, and this even when we are sure that comparatively little can have run off by the bowels, and that none has been rejected by vomiting.

In watching these cases, one fact has been most striking and unmistakable, and that is, the effect of the remedy when pushed to its full extent; the pulse is depressed, the vital powers are prostrated, and vomiting follows. In some of the more severe cases there was such a tendency to sinking that stimulants were had recourse to, and seemed urgently called for. But this condition was by no means followed by a remission of the disease, which recurred as soon as the physiological effects had passed off.

The cases treated by quinia are divided, by Dr. B., into three classes: 1. Those in which its exhibition was followed by marked depression. 2. Those in which the pulse became slower, without general prostration or sickness. 3. Those in which no decided effect was produced which could be noted at the time.

1. Including all the cases together in which this effect was produced, the number is five. Two have been already mentioned as fatal, one of apparent typhus, one of tubercular inflammation of the brain, to which a third may be added, complicated with albuminuria, which was not detected until the subsidence of the fever, and ultimately proving fatal. The physiological effect of the remedy was produced by very different quantities in different instances, and given at very varying intervals. One patient took twenty grains every three hours for nine times; another took ten grains every two hours for ten times; while a third took twenty grains every six hours for only three times; the

other two had twenty grains every four and every six hours respectively for eight times.

Of the three uncomplicated cases, one died, one was ill ten days before admission, and remained under treatment forty-five days before recovery was complete; the other had been ill a week, and was discharged cured at the end of twenty-four days.

2. In two instances only did the pulse become remarkably slower without any depression; one took ten grains every three hours, the other fifteen grains every four hours for about two days, after which the dose was gradually diminished. The first had been ill five days, and was discharged cured in eleven days, having been kept under observation longer than was perhaps absolutely needed to ascertain that recovery was really complete; the second had been ill only two days, and got well in three weeks.

The first case was not severe and had no spots; the second was delirious for the first two or three nights, and had a faint rather indistinct rash on the abdomen; he had also pretty severe diarrhoea, but no evidence of ulceration of the bowels. The pulse fell in each below 50, but it is necessary to state here, that in another instance it fell still lower in which no quinia was given. He made a very rapid recovery, being ill only five days before admission, and leaving the hospital cured in eight days.

3. In eleven cases there was no distinct physiological effect produced by the quinia; and it remains to inquire whether recovery was more rapid under this mode of treatment than any other; and this may be best accomplished by instituting a comparison between them and the whole of the other fever patients admitted during the same time. Twelve examples of a very mild form, which might be justly called febricula, are omitted, and there then remain fifty-one instances of well-marked fever which were not treated by quinia.

Among these, twenty exhibited fever spots on the chest or abdomen, and six with and five without spots gave unequivocal evidence of ulceration of the bowels. By this is not meant merely the occurrence of thin watery motions, which have been observed in the majority of the patients, but the persistence of diarrhoea, with a patchy, shining, or fissured tongue. We have, therefore, as the basis of our analysis, twenty-six cases which neither had fever spots nor distinct evidence of ulceration, fourteen with spots but not certain ulceration, and eleven in which the presumptive evidence of ulceration was strong.

The average duration of these cases, was—of the 26 cases, 10 days before admission, and 21 days under treatment; of the 14 cases, 8 days before admission, and 22 under treatment; of the 11 cases, 7 days before admission, and 33 under treatment.

Turning now to those in which the quinia treatment was adopted, and almost invariably in ten-grain doses every four hours, they include five cases in which there was pretty conclusive evidence of ulceration of the bowels, three of which were also spotted; four cases with spots, where ulceration was not proved, and only two in which neither condition was exhibited. With the last cases it may be best to classify the two already referred to under the second division, because they are not marked by any very broad line of distinction separating them from the present series, and they exhibit the quinia treatment under its most favourable view.

There are, therefore, four cases without spots or decided ulceration, of which the average duration was eight days before admission, and twenty-three under treatment; four cases with spots only, of which the average duration was ten days before admission, and twenty-six under treatment; five cases with ulcerated bowels, of which three had also spots, and their average is fifteen days before admission, thirty-seven under treatment.

I must here distinctly state that, when I commenced this report, I had no idea what the result would be, and, so far from believing it unfavourable, had hoped that, excluding some unfortunate cases, the treatment of fever with quinia would prove rather more speedy, safe, and effectual than by the ordinary modes. I am sorry to be convinced that it has no advantages.

It may be well to state in conclusion, that the prevalent type of fever has been

what would be called "typhoid," not true "typhus." One or two had the aspect of congestive typhus, but wanted the purple, mottled rash. One patient had this rash very well marked, mixed with ecchymosed spots, and at the same time had distinct ulceration of the bowels, with a chapped and glazed tongue. Some had a very abundant crop of florid, slightly-elevated spots disappearing on pressure; some had only one or two of this character. Occasionally, the spots are characterized as large, sometimes as small; and individual instances occur exhibiting various degrees of persistency, and various shades of colour, from a pale rose to a deep crimson. Spots existed without ulceration, and ulceration without spots, apparently without any definite rule; and some of the most severe and tedious cases were unaccompanied by either one or the other.

Without entering at present into the *vexata questio* of the exact value of fever spots in diagnosis, these facts are mentioned to show that the cases presented very considerable varieties, but I have not been able to ascertain that the quinia treatment was more adapted to one condition than to another. It appeared in the only two cases resembling typhus in which it was tried, that the depression was greater, and produced by a smaller quantity of the alkaloid, than in the remainder, but the instances are too few to draw any general conclusion from them. It is still a desideratum, that similar experiments should be made in the course of a regular epidemic of typhus; for, however otherwise the cases differed among themselves, they had this feature in common, that they were examples of the endemical fever of London.

23. *Cases of Lymphorrhagia: Varicose Dilatation of the Lymphatic Vessels.*—In the *Mémoires de la Société de Chirurgie de Paris*, tome iii. fascicule 2, M. Demarquay has published two cases of lymphorrhagia, or escape of lymph from the external surface of the body.

CASE I.—M. X., aged 17, on the 9th of March, 1852, while playing with some relatives, accidentally found that his shirt and trowsers were wet. On examination, he found that the fluid escaped from a part of the thigh; it was at first colourless, but soon became milky. A medical man was called, who arrested the flow by applying a compress dipped in cold water, with a slightly tightened bandage. The next day, M. Demarquay found, at the lower and inner part of the left thigh, numerous small and depressible elevations, which he at first took for hypertrophy of the follicles. The linen which had been worn on the previous day had become stiff, as if it had been dipped in an albuminous fluid. It was evident that much lymph had escaped, but the exact point of its exit could not be determined.

Some days afterwards, M. Demarquay had an opportunity of seeing some lymph escape from the lower and inner part of the right thigh of M. X. It was at first colourless, and of a slightly opaque tint, passing to yellowish white on accumulation in a glass vessel. On examining with a lens, M. Demarquay ascertained that it escaped from a very limited spot; it was thrown out with some force, for it slightly raised the epidermis; indeed, it flowed in the same way as blood from a small arterial twig at the bottom of a wound. Eight grammes (a little more than two drachms) were collected in a wineglass; in a few minutes the fluid was entirely coagulated; it adhered to the vessel, and presented a bluish-white appearance, inclining to yellow.

Some days afterwards, MM. Denonvilliers, Ricord, and Flourens examined the case with M. Demarquay. Independently of a series of granular elevations at the inner part of the right thigh, at the union of the lower with the middle third, there was a projection three or four *centimètres* (one inch and one-fifth to one inch and a half) in extent, reaching, in a slightly curved form, from the front to the inner part of the thigh. It yielded to pressure, like a varicose vein; upon and around it were small granular elevations. The projection increased on motion, and diminished during rest; it was evidently a varicose dilatation of a lymphatic vessel.

From this time till September, M. X. remained free from the lymphorrhagia. At the latter period, when in Montpelier, he was again attacked; the fluid was then examined by M. Bouisson, and other physicians. A flow of lymph occurred

for a short time on October 31st; and on November 1st it returned, and continued during nine hours, in spite of pressure by means of a handkerchief, which had hitherto been found sufficient to arrest it. M. Demarquay obtained several ounces of fluid, some of which was furnished to M. Mialhe, for chemical examination. The fluid coagulated, like that already described; but a clot was soon formed in the centre, appearing as if composed of a series of reddish filaments in abundant serum. The varix had increased in size, and the granular elevations observed in March had become transparent and vesicular. On pricking one of them, lymph escaped. The right thigh was at this point more than two *centimètres* (four-fifths of an inch) larger than the left.

Pressure above and below the point whence the lymph escaped gave rise to a jet as from a vein of moderate size. When pressure was made below the dilatation, the flow was not arrested.

M. Demarquay observes that there was here not only dilatation of a lymphatic vessel, but also of the superficial network at two points of the thigh; viz.: anteriorly and interiorly at the junction of the lower with the middle third, and on the anterior part of the middle third. The escape of lymph during nine hours did not produce inconvenience; and up to the date of the report the disease had continued, and the flow of lymph had gradually increased.

CASE II.—This case was observed by Dr. Fitzer. A young lady, aged 16, who had not menstruated, had had crural hernia from the age of eight years. In 1847, she found that she had on her abdomen a number of small granular elevations; she was examined by Dr. Fitzer, who found a brownish stripe, three finger-breadths in width, commencing an inch below the umbilicus, to the left of the *linea alba*. It extended to the left and upwards, passing between the false ribs and the ilium, and ended at the dorsal vertebræ, becoming smaller and more transparent at this part. The middle part of this streak was prominent, and was formed of about eighteen papillary enlargements; some of these resembled the mammillary papillæ in men, others those in women; they were not tender to the touch, and disappeared on pressure. In July, the patient felt some pain in the situation of the streak; and on the 31st of that month, after returning from a walk, she found that there was escaping a milky coagulable fluid. She estimated the quantity which escaped at a quarter of a pint. Dr. Fitzer found the appearance of the parts the same as before. The fluid continued to escape during three days. It was milky, of a saline taste, alkaline, and escaped from two of the largest of the elevations which have been described. When one orifice was compressed, more lymph flowed from the other. Dr. Fitzer cut one of the elevations with curved scissors; he was able to pass a probe for an inch right and left; a quantity of lymph escaped from this incision. Pressure, and the application of alum were insufficient to restrain the flow of lymph; Dr. Fitzer therefore applied nitrate of silver. It was important to arrest the disease, as the girl was losing strength, and the pulse was becoming weak. The lymphorrhagia ceased, but the granular projections remained; new ones were even formed, of the size of a lentil or millet-seed, while the skin over the remaining part of the streak had become pale, like that of the rest of the abdomen.

Microscopical and chemical analysis of the fluid, made by M. Schlossberger, left no doubt that it was lymph.

M. Demarquay has not been able, after diligent search, to find any records of cases of lymphorrhagia from spontaneous rupture of the vessels; cases of lymphorrhagia from wounds have been recorded by Nuck, Van Swieten, and Assalini.

Dilatation of the lymphatic vessels has been observed by Baillie, Mascagni, Amussat, Breschet, Sir A. Cooper, Bichat, Sömmering, Morgagni, Beau, Ricord; also, by Bidloo, Meckel, Rokitsansky, Albers, Andral, Otto, and Hasse.¹ But the facts have not as yet been sufficient to enable pathologists to determine the causes, forms, varieties, diagnosis, prognosis, or treatment of the disease. As far as M. Demarquay knows, M. Beau is the only surgeon who has attended to the treatment. In cases of dilatation of the lymphatics of the prepuce, he introduces a small seton into the dilated vessel, and removes it at the end of

¹ Hasse's *Pathological Anatomy*. Sydenham Society's Translation, p. 9.

three or four hours. Obliterative inflammation is thus produced.—*Association Med. Journ.* Feb. 18, 1853.

24. *Spasmodic Asthma*.—The first number of the *Glasgow Medical Journal*, contains an interesting paper on this subject, by Dr. EBEN WATSON.

It appears from Dr. Strang's statistics (Report on the Glasgow Mortality Bill for 1851, p. 46), that in the year 1851, 212 persons died of asthma in Glasgow; and in 1852 (Report on the Glasgow Mortality Bill for 1852, p. 28), rather fewer, viz., 202. Now, by the same tables, we also find that the total deaths from all causes, among persons above fifteen years of age, amounted, in 1851, to 4543, and, in 1852, to 4853; and seeing that asthma very rarely attacks persons below fifteen years of age, it follows that these two numbers afford the means of ascertaining the ratio between the general amount of mortality, and that accruing from asthma. Regarding, therefore, the adult population alone, viz., persons above fifteen years of age, one death was caused by asthma, in 1851, for not more than 20.4 by all other diseases put together; and, in 1852, one death was caused by asthma for 23 by all other diseases. Or, to take another view of it, of all deaths happening to persons above fifteen years of age, 4.6 per cent., in 1851, and 4.1 per cent. in 1852, arose from asthma.

The name of spasmodic asthma was originally founded on the mere supposition of a spasm in the air-passages, occurring so as to cause the sudden paroxysms of dyspnoea, to which the patient is liable; and now that the structure and functions of the bronchial tubes have been thoroughly investigated and made familiar to every one, we do not *suppose*, but we *know*, that such a spasm really occurs; so that in this instance modern science has confirmed ancient hypothesis. There are only two portions of the air-tubes where spasm can at all take place, so as to cause dyspnoea. These two portions are at the rima glottidis, and at the extremities of the bronchial tubes, where, instead of cartilaginous rings, there exist muscular fibres. In all other parts of the bronchi, the rings of cartilage in their outer walls prevent anything like complete closure.

Laennec observed that during the asthmatic paroxysm there was great diminution, or even complete absence, of the respiratory murmur; a fact which is explained by the small tubes being obliterated by the spasm, so that the air cannot pass into and distend the air-vesicles. When the spasm begins to relax, the patient inspires slowly and with difficulty; a vibratory sound, accompanying the inspiration, is heard by the bystanders, and much more loudly through a stethoscope placed over the thyroid cartilage. It is caused by the vibration of the glottis, still partially stretched over the entrance to the windpipe. Sufficient importance has not been attached to the spasm of the glottis in asthmatic cases; it is the glottidean contraction which chiefly hinders the patient from overcoming that of the much weaker fibres of Reisseissen, in the smaller bronchial tubes. As soon as the muscles of the glottis relax, and not till then, does the respiratory murmur become re-established.

Observation thus teaches us that the superior constriction is the last to give way; and Dr. Watson believes that, in early cases of asthma, it is the first to occur. There are two circumstances which prove this satisfactorily to his mind: first, the fact that many cases of purely laryngeal disease end in spasmodic asthma; and, second, that there are cases, though perhaps not very common, in which the affection is confined to the glottis.

In a paper on Chronic Laryngitis, published in the *Dublin Quarterly Journal of Medical Science*, in November, 1850, Dr. Watson stated it as his opinion, that inflammation of the larynx, especially if ulcers have formed, constitutes a not infrequent cause of bronchial asthma, and supported that opinion by the relation of a case, occurring in a lady, who had had acute laryngitis producing ulceration, and passing into the chronic state. Afterwards, not only the usual symptoms of the laryngeal disease remained, which were persistent, but a new affection was excited, viz., spasmodic asthma, in a most severe degree. The bronchial tubes ultimately become altered by the violence of the morbid agency that had attacked them. It was not to be expected that, at this late stage of the disease, any treatment could produce a perfect recovery; but it is satisfac-

tory to be able to state that, after the cure of the laryngeal ulcers by the topical application of solution of caustic, the lady had no such severe asthmatic paroxysms as those from which she formerly suffered.

The occurrence of a kind of asthma confined to the glottis will be sufficiently illustrated by the following case:—

CASE.—A young lady consulted Dr. Watson, about two years ago, for sudden attacks of breathlessness. She had no cough of any consequence, and in the intervals of the attacks she breathed freely enough; but as she seldom enjoyed a night's rest, her general health was somewhat disordered. Her pulse was quiet and natural, and there was no evidence of heart-disease; but her complexion was slightly florid, and her lips were of rather a bluish tinge. When he saw her, there was none of the bronchitis which generally attends asthma, and her age forbade the supposition of its being the ordinary kind of that disease. The respiratory sounds in the larynx were loud and harsh, and the exaggerated length of the inspiratory sound was exaggerated.

The fits of dyspnoea were worst at night and in the morning. When the disease was mild, she could, by keeping very quiet and still during the evening, avoid the breathlessness for the early part of the night, and thus she got sleep for a time; but soon after midnight she was sure to awake with frightful dyspnoea, and was obliged either to rise from bed, or, at all events, to spend in a sitting posture the rest of the time usually allotted to sleep. Before she came to Dr. Watson, however, she was always attacked in a similar violent manner in the evening, so that it was only after being completely worn out that she obtained a short repose, from which she was again roused by extreme breathlessness. There was no approach to hysteria.

No other treatment was used but the regular application of a solution of caustic (Di to Zi) to the affected part, at first every day, and afterwards every second day. About six weeks of this treatment sufficed to remove the symptoms, and the lady remained quite well until the following winter, when she caught a slight cold and became affected in a similar way; but she applied to Dr. Watson sooner than on the former occasion, and half the time of the same treatment again produced a cure. During the autumn, she again had another attack of her disease; but this time it was so light, and treated so early, that it did not resist the topical application above a week. Since then she has been entirely free of the spasms, notwithstanding the very changeable and trying weather of the past winter.

Dr. Watson then concludes, 1st, that local causes of irritation in the larynx may produce spasmodic contractions, not only of the glottis, but also of the lesser bronchial tubes; and 2d, that spasmodic affections of the glottis may occur periodically for a length of time, without involving the small bronchial tubes in any great or important contraction. These conclusions, if correct, prove that asthma commences in the upper and not in the lower parts of the air-tubes; and that, in the rational treatment of that disease, the remedies most likely to benefit the patient are such as may be applied to the laryngeal lining and to the glottis itself. But it must be remembered that, in many of these cases, universal bronchitis exists along with the spasmodic affection of the upper and lower tubes: this may arise either from causes capable of exciting both diseases, or the bronchitis may have existed previously to the occurrence of an asthmatic paroxysm. The former is then probably the exciting cause of the latter; and he admits that it is difficult, nay, perhaps impossible, to ascertain with accuracy, in this class of cases, whether the spasmodic affection was first excited in the small tubes, or at the top of the larynx. It is enough for practical purposes, however, to know that the latter region is always affected in such cases at the same time as the inferior bronchi, and with even greater intensity; and, moreover, that it is the spasm of the glottis which chiefly maintains that of the bronchi, by preventing their expansion during the forcible inspirations of the patient.

The ordinary treatment by bleeding, general or local, by emetics, antispasmodics, opiates, and mercurials internally, with blisters, and various other counter-irritants externally, has seldom been followed by even a partial success

in these cases. It is established, both by clinical observation and by Dr. Williams's experiments,¹ that bleeding carried to any length can never diminish the tendency to spasmodic contraction in the air-tubes; but, during a bad fit of asthma, such a measure may be absolutely necessary to relieve congestions, arising secondarily, either in the brain or in the lungs themselves. Again, though emetics cannot save the patient from a renewal of the spasm, they may assist in overcoming that which exists, as well as in clearing away the mucus which clogs up the smaller tubes; and antispasmodics may assist in prolonging their good effects for a short time. In some cases, where there is much bronchitis, blisters have a good and more lasting effect, but they do not exercise much influence over the spasmodic asthma. In like manner, a slight mercurialization often benefits the bronchitis of the more sthenic variety, as indicated by the expectoration containing plastic matter, mixed with mucous globules; but it can have no effect on the paroxysmal disease. Opium only lulls for a time—an effect by no means to be lightly esteemed; but when the paroxysm becomes severe, it utterly fails.

There is here, therefore, an evident blank in therapeutics. There is no agent hitherto proposed which is capable of removing or greatly diminishing the morbid contractility of the air-tubes. And Dr. Watson thinks that a solution of caustic applied to the interior of the larynx supplies this defect. In proof of its having this exhausting effect on the irritability of the glottis, and ultimately on that of the air-tubes, he refers to the results of its use in whooping-cough, a disease which is so analogous to spasmodic asthma in its pathology, that it is almost enough to show the efficacy of a remedy in the treatment of one of these diseases, to prove its suitability for the other. Now, in proof that the topical treatment of whooping-cough is most efficacious and successful, it is enough to state that, combining the cases treated by him since he first proposed the plan in 1849, with those treated by M. Joubert, of Cherion, and published in the *Bulletin de Therapeutique*, for January, 1852, we have as follows:—

	Cases.
A speedy cure (in ten to fourteen days) resulted in . . .	78
Shortening of disease (three or four weeks' duration) . . .	39
No change was effected in . . .	8
Total number treated . . .	125

There was not one death among all the cases treated, and, taking their percentage, we have—

65.4 . . .	were cured within a fortnight.
31.2 . . .	were cured in three or four weeks.
6.4 . . .	resisted the treatment.

100.0

He feels assured that no similar statement could be made regarding the results of any other method of treating whooping-cough.

He cannot, as yet, speak of great numbers of cases of spasmodic asthma treated in this way; but he has been very successful with the topical method in some cases that had previously been treated without much benefit in the ordinary manner. Of this, he gives two instances.

Heart-disease is a frequent concomitant of asthma, and in such cases it is often supposed that the former is the cause of the latter disease; but this is by no means the constant relation of the two morbid states, for the disturbance to the pulmonary circulation, occasioned by frequent asthmatic paroxysms, is quite as likely to produce the heart-disease as the reverse. It is, however, more important to call attention to the fact of the great difference between simple spasmodic asthma and that which coexists with heart-disease. The pathology of the former has already been explained as an affection wholly confined to

¹ Report read by Dr. C. J. B. Williams, at the meeting of the British Association in Glasgow. See his work on *Diseases of the Chest*, p. 320.

the bronchial tubes. But in cardiac asthma, this is, Dr. Watson ventures to say, never the case. In that disease, the substance of the lung is always more or less altered; generally, the air-cells have become much distended, their walls atrophied, and even in some places ruptured; and it is this vesicular emphysema, not spasmodic contraction of any part of the bronchi, which produces the urgent thirst for air so distressingly experienced by these patients. There could be no good object served by introducing solution of caustic into the larynx in such cases.

There are, besides the topical application to the larynx, two other remedial measures which Dr. Watson has for some time employed in cases of spasmodic asthma, but regarding which he is not able to speak with precision. The one is electricity, applied, in a gentle current, as much as possible along the course of the larynx and bronchi. In his experiments on the lower animals, Dr. C. J. B. Williams found that such a current destroyed the contractility of the tubes,¹ and in several instances Dr. Watson has thought that it co-operated with other means, in diminishing the frequency and severity of the asthmatic paroxysms. This, however, might be the effect, not only of its local, but of its general action as a tonic on the nervous system. The other agent referred to is strychnia, which he has used in repeated small doses of one-twentieth or one-sixteenth part of a grain, and he believes with good effect in some cases. Dr. Williams found that when animals had been poisoned by this substance, the air-tubes did not exhibit contractility, and he thought that they were retained in a tonic spasm by the operation of the poison. This very probably was the case; but of course the use of strychnia in medicinal doses produces totally different effects on the human system, and the benefit accruing therefrom must have another explanation. Dr. Watson believes that this medicine, in the doses mentioned above, is a powerful equalizer of nervous action, and therefore a good means of diverting that action from concentrating in any particular organ, such as the bronchi in spasmodic asthma.

In conclusion, Dr. Watson recapitulates the chief propositions sought to be established.

1. Very many cases of bronchial asthma have their origin in laryngeal disease; that some remain for a variable period, as a spasmodic affection of the glottidean muscles, and that in all cases of the disease in question, although the bronchi have long been affected, the chief contraction still occurs in the larynx.

2. If this contraction at the glottis be in any way overcome, that of the smaller bronchii either simultaneously or speedily relaxes.

3. The usual remedies employed in spasmodic asthma are either directed against the complications of the disease, and not against its proximate cause, or have been found in practice incapable of accomplishing its removal. The latter are therefore useless, and the former unfit to fulfil the indication referred to above.

4. This indication may be answered more or less perfectly in different cases, by the application of a solution of caustic of moderate strength (gr. xv. or β i to β ii) to the glottis, which is the organ chiefly affected.

5. Cardiac asthma, as it is called, does not usually depend proximately on simple spasmodic contraction of the bronchial tubes, but rather on vesicular emphysema. Cases of this kind are therefore unfit for topical treatment.

6. Electricity passed in gentle currents, as much as possible along the bronchial tubes, may be found to diminish their contractility; and repeated small doses of strychnia may co-operate with the other means of treatment, probably by withdrawing the nervous energy to other parts at a distance from the affected air-tubes.—*Assoc. Med. Journ.* May 27, 1853.

¹ See Report, formerly referred to.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

25. *Improvements introduced into the Practice of Surgery in Great Britain within the last Thirty Years.*—The *Monthly Journal of Medical Science*, for April last, contains an interesting summary, by Prof. SYME, of the practical improvements made in surgery within the last thirty years. The whole article is well worthy a perusal; but our limits will permit us only to notice the more important points.

Treatment of Ulcers and Incised Wounds. By Prof. SYME.—Thirty years ago, a dresser commenced the discharge of his daily duty in the hospital, by spreading a quantity of calamine cerate upon pieces of lint or linen, and cutting some sheets of adhesive plaster into narrow strips. He then proceeded to dress all the suppurating sores, by applying to each a pledget of ointment, next a cushion of carded tow, and finally a long bandage, to keep all secure for twenty-four hours. At present, the use of greasy applications and elaborate bandaging is almost entirely abandoned in such cases; the water-dressing, or wet lint covered with oiled silk, being substituted with great advantage, in regard not only to convenience, but also to promotion of the healing process.

The strips of adhesive plaster prepared by the dresser were devoted chiefly to the treatment of indolent or callous ulcers of the legs, according to the method of Dr. Baynton. This was a process so troublesome and expensive, as very much to limit the relief afforded to such cases, by rendering them unpopular subjects of hospital treatment. But it is now well known that the hard swelling of the limb, which gives these ulcers their peculiar character, may be quickly removed by the application of a large blister, so as to allow speedy healing and sound cicatrization without farther trouble, and thus place the means of recovery within the reach of the poorest and most destitute of patients. Varicose ulcers of the legs, also, used to be treated by the same process of strapping with adhesive plaster, but are now known to heal readily under the simple application of the black-wash.

There was another class of ulcers held to require very severe means of treatment. This was the syphilitic, or more correctly the mercurial sore, of a sinuous or burrowing character, which is so common wherever the delusion of mercury prevails, in all parts of the body, but especially the inner side of the legs, and thighs. Its remedy was believed to be impracticable, except through the agency of caustic potass, a stick of which was pushed into all the winding sinuosities of the sore, and rubbed over the discoloured skin surrounding its orifices, so as to destroy the vitality of the unhealthy textures, with what pain to the patient may be easily imagined, and not readily forgotten by any one who has heard the walls of a hospital resounding with the shrieks of agony so excited. Nowadays, instead of this severe discipline, a gentle administration of the hydriodate of potass, to the extent of two grains, twice or thrice a day, and a blister applied over the sore, afford the relief desired, not only without suffering worthy of mention, but much more quickly than in the other way. The same sort of constitutional and local treatment is now found sufficient for the remedy of another description of ulcers, which used to be counteracted by measures still more formidable. This was the disease of the shin bone—then confounded with the incurable condition of caries, and supposed to require removal or destruction of the part affected, by rasping, scraping, and the red-hot iron. Chauffeurs bristling with cauteries are no longer brought into the operating theatre for this purpose; and the only treatment of a local kind deemed requisite, is the application of one or two blisters, followed by water-dressing.

A change no less remarkable has taken place in the treatment of simple incised wounds, or those desired to heal by the first intention. Formerly, immediately after their infliction, the edges were closely approximated and retained in contact by strips of adhesive plaster, and covered with pledgets of lint, cushions of tow, and tight bandages. As a necessary consequence of this system, blood

always accumulated in the cavity sufficiently to cause separation of the respective surfaces, so that an abscess resulted, instead of the anticipated union. Now, the greatest care is taken to allow the blood free vent so long as it is disposed to escape, any sort of impermeable covering being withheld, while pressure is diligently applied to maintain the raw surfaces in apposition, so as to be within reach of the adhesive effusion by which their union is effected. Instead of suppuration being the almost invariable rule, and cicatrization a very rare exception, the results are now reversed; and the primary healing of wounds is looked for, if not with certainty, at least with confident expectation.

26. *Senile Gangrene.*—Not many years ago, one of the most painfully discouraging subjects of surgical study or practice was that mortification which is so apt to attack the toes of old people, and has been called the *gangrena senilis*. The insidious commencement of its attack; the agonizing distress which attends its progress; the inefficiency of measures employed for its remedy, and the inevitably fatal result to which it led, rendered this disease indeed one of the *opprobria* of surgery. According to the ideas then entertained, nothing could be done, except keeping up the patient's strength by an ample allowance of wine and brandy, dulling his sensibility with opium, and preparing his friends for the issue. But now the case is very different. The morbid action being attributed to excessive irritability, dependent upon weakness proceeding from an imperfect supply of blood, instead of attempting to supply the deficient vigour by stimulants that can do no good, and must hurry on the disease, the treatment is directed with a view to lessening the tendency to overaction by the use of soothing means. The patient is confined to bed, debarred from animal food in every form, with the exception of milk, which, with water, constitutes his only drink, supplied with doses of morphia in proportion to his pain and restlessness, and has the part affected covered with a linseed poultice. Under this system, the distressing symptoms gradually disappear, the slough ceases to extend, and after its separation the sore cicatrizes soundly, no difficulty or bad effects being subsequently experienced in returning to the ordinary habits of diet and exercise. The student, therefore, no longer turns over this page of his principles with a blush for the imperfection of surgery; and the practitioner, instead of being called upon to undertake a hopeless task, has frequently the satisfaction of conducting his patient safely through what might formerly have well been called the valley of the shadow of death.—*Ibid.*

27. *Amputations.*—Within the last thirty years, a great revolution has taken place in regard to the performance of amputation. Formerly, upon all occasions, whether for the removal of a finger or one of the larger limbs, this operation was done by circular incision; but now it is no less generally accomplished by the formation of flaps. The advantages urged in favour of the latter method, by those who succeeded in establishing it, were the facility, rapidity, and, consequently, smaller amount of pain attending its execution, together with the superior covering to the bones which was afforded by the resulting stump. Of these considerations, the former has lost its value through the introduction of chloroform; but the latter, which was always the more important of the two, still maintains its ground; and, with the exception of the lower part of a muscular thigh, and the upper part of the leg, where the circular method appears to be preferable, leaves no room for hesitation between the old and present modes of performing the operation.

The ankle-joint and bones of the tarsus are so liable to the incurable condition named caries, which peremptorily requires removal of the affected part, that amputation of the leg was not many years ago one of the most common operations witnessed in hospital practice; and as the patients could not afford the expense of a substitute more costly than the simplest form of wooden pin, the limb upon such occasions was taken off immediately below the knee. But it is now well ascertained that, when the disease or injury does not extend above the articulating extremities of the tibia and fibula, the patient may be relieved by depriving him merely of the foot, while the thick integuments of the

heel are preserved, to form a cushion for supporting the weight of the body. It farther appears that upon the stump thus formed the patient may stand and walk with a degree of comfort and security hardly less than when the limb remained entire. And, what is of still more consequence, that the operation, instead of frequently proving fatal, like amputation of the leg, is almost entirely free from danger.

Next to the ankle-joint, the elbow is the articulation most subject to incurable disease of the osseous tissue, and hence used frequently to entail upon surgeons the painful duty of performing amputation of the arm, while the hand was perfectly sound. The inferior extremity being chiefly employed in supporting the body, may be replaced with a substitute by artificial means, much more effectually than the arm, and, indeed, so far as both appearance and utility are concerned, with one preferable to the natural limb when it is much shortened, distorted, or weakened. But the case is very different with regard to the hand, which, in its most imperfect condition, far surpasses in usefulness the most ingenious contrivance of art, and therefore preservation of the arm, even in the most crippled state, would be a great object for the patient's comfort. It is now, however, established on the most ample experience, not only that an arm suffering from disease of the elbow-joint may be saved from amputation by cutting out the diseased bones, but that the limb thus preserved may retain its mobility and power so little altered or impaired as to be hardly distinguishable from one in its natural state. Excision of the elbow-joint, therefore, instead of being regarded as an experiment of such doubtful result that it had never been performed in Great Britain, is now the established rule of practice. Indeed, the operation is deemed so safe in its performance, and so satisfactory in its effect, that even in cases where there is no existing disease, but merely stiffness of the joint in a straight or some other inconvenient position, it is undertaken in order to restore mobility and usefulness of the arm.

The morbid condition which requires excision of the articulating extremities of the bones occurs in adults most frequently from the disease which, to distinguish it from others, has been named ulceration of the cartilages; and, to prevent any cavil on the part of those gentlemen who view all questions of pathology through the microscope, and never seem so happy as in endeavouring to unsettle the ideas of practical men by altering the nomenclature of things familiar to them, I beg to explain that by this term I understand merely a particular form of disease, characterized by peculiar symptoms leading to certain changes of texture, and remediable by certain means of treatment. Leeches, blisters, soothing means, and all the ordinary forms of counter-irritation, have been found productive of little more than palliation in cases of this kind; but the actual cautery, when employed before suppuration has taken place, may be relied upon with confidence as a nearly certain and effectual remedy. The ankle, knee, wrist, and elbow joints are most liable to the disease, especially the one last mentioned, and here the beneficial effect of surgical interference may often be witnessed in circumstances of the most impressive character. Yet, thirty years ago the actual cautery, so far as I know, had never been used in this country for the purpose of counter-irritation; and even now I suspect that it is chiefly confined to practitioners who have derived their education from Edinburgh.

In the more frequent forms of articular disease which depend upon scrofulous degeneration of the textures, a no less conspicuous improvement has been introduced, not through the employment, but from the disuse of active measures. It is now admitted that, in such cases, depletion and counter-irritation are not only productive of no benefit, but actually injurious, from the weakening effect which they produce on patients whose weak state of system is the source of derangement, and should be the great object of reparation, all that the affected joint requires being protection from motion or other causes of disturbance.—*Ibid.*

28. *Coagulation of Blood in Arteries by means of a Solution of Perchloride of Iron. Aneurism of the Suborbital Artery cured by this means.*—M. PRAVAZ, of

Lyons, has instituted some experiments with a view to obtaining instantaneous coagulation of blood in arteries. He makes use of perchloride of iron at the maximum of concentration, a few drops of which are to be injected into the vessel in which it is desirous to obtain coagulation. This injection is to be made with a very fine trocar, of either gold or platinum, the diameter of which is scarcely greater than that of a needle; this is to be introduced very obliquely, through the parietes of the artery, with a wriggling motion. To this trocar is adjusted a small syringe, the piston of which works with a rack and pinion motion, so that the injection proceeds without impulse, drop by drop, and in such a way the quantity of liquid injected can be accurately measured. Every turn of the pinion allows of the escape of two drops of the liquid. Whilst this injection is used, the circulation is momentarily arrested in the vessel by means of pressure above and below. A few drops suffice (three or four in a sheep, six or eight in the horse) to form a solid and resisting clot.

Up to this time, the experiments had been only made on animals, but M. Raoul Deslongchamps has just sent before the Surgical Society of Paris, a case of aneurism of the suborbital artery treated with success by injection of perchloride of iron. It was a tumour situated in the suborbital region, affording pretty strong pulsations, isochronous with the heart's action. This tumour, for the cure of which compression had been used without effect, disappeared completely by means of the injection, as recommended by M. Pravaz, after presenting some inflammatory symptoms, which easily yielded to antiphlogistic treatment.—*Dublin Med. Press*, May 25, 1853, from *Gaz. Méd. de Toulouse* and *Presse Méd. Belge*.

29. *Ligature of the External Iliac for a Wound*.—Dr. JAMES OGDEN relates (*Association Medical Journal*, April 29, 1853) the following case, which occurred November 14, 1825:—

A man, twenty-six years of age, was stabbed with a long sharp penknife in the right iliac fossa about an inch above Poupert's ligament. A most frightful hemorrhage ensued, and he was instantly dragged across the street to Dr. Ogden's surgery, in a state of syncope, apparently dead, with the blood flowing *per saltum* from the wound. With the assistance of his apprentices, Dr. Ogden immediately passed a director between the peritoneum and the fascia transversalis, cutting this fascia, and the internal and external oblique muscles, so far as to allow him to introduce his finger as a guide for the better protection of the peritoneum. He carried the incision upwards for about three inches, in the direction of the anterior superior spinous process, about an inch and a quarter internal to it. The coagulum which presented itself was scooped out; and, carefully drawing aside the peritoneum, and gradually separating it from its cellular attachments to the parts beneath, Dr. O. was enabled to raise the artery upon the point of his finger, when the wounds in the sheath and artery were perceived. Compression with the finger retarded the hemorrhage. The wound in the fascia was somewhat enlarged, so as to enable him to apply a double ligature, taking care at the same time not to denude the vessel of its *vasa vasorum* any more than could possibly be avoided, and carefully separating the vein from the artery. On examining the state of the parts more minutely, he found that a nerve was included; this was excluded by passing a second needle, armed as before, and withdrawing the first. The artery was then secured firmly, above and below the wound; one end of each ligature was cut off close to the vessel, and the wound in the abdomen secured by sutures, etc. The necessary means were taken to restore animation and warmth to the extremities; and, in the space of two hours, we had the gratification to find pulsation at the wrist, and, in half an hour afterwards, consciousness. The patient was placed in bed at the inn, with the limb slightly bent, and supported by pillows at the knee. A draught was given, composed of spirits of ammonia, compound tincture of cardamoms, and Battley's sedative solution of opium. Warm applications were applied to the feet, etc.

The foot and leg soon became cold and never recovered their warmth; no pulsation could be felt in the femoral, popliteal, or anterior tibial arteries. Six

days afterwards the leg and foot became gangrenous, and on the eighth day hemorrhage took place, which in a few minutes caused his death. On *post-mortem* examination, the artery on the cardiac side of the ligature was found* to have sloughed, having partaken of the mortification of the extremity and contiguous parts.

30. *Treatment of Cancer*.—M. DEVAY (*Gaz. Méd.* 1852, No. 52), of the Hôtel Dieu, Lyon, has long been engaged in investigating the therapeutical properties of conium in cancer, being of opinion that Storck's experiments should be resumed with the aid of the improved chemical knowledge of the present period. He finds the best preparations to be an extract and balsam, containing 1 per cent. of conicine, made from the seeds of the plant, gathered when at maturity, of full weight, and of an ash-gray colour. As the result of his researches, he states: 1. That an ointment, applied externally, in chronic enlargements of scrofulous glands, possesses a resolvent power greater than that of any other substance. 2. In engorgements of the uterus, or inflammatory hypertrophy of the organ—so frequently complicating its prolapsus or deviation—this medicine, employed internally and externally, is of great service. 3. In cancerous affections it exerts remarkable calming effects, and in some cases even cures seem to have resulted from its employment, especially in the atrophied form of scirrhus. Its use is less satisfactory in soft and rapidly increasing tumours; but the progress of some of these has seemed to be retarded. In other cases, it has diminished the size of secondary tumours, rendering the primary ones more amenable to surgical operation. As a means of assuaging suffering, whether used topically or taken internally, it is invariably preferred by the patients to opium, and all other narcotics.

M. Manec, surgeon to the Salpêtrière, has just obtained a recompence of 2000 francs from the Académie des Sciences (*Gaz. Méd.* 1853, No. 10), for the perseverance he has shown in investigating the action of Frère Côme's Arsenical Paste in more than 150 cases of cancer, in some of which he obtained unhopedor results. His experience leads him to these conclusions: 1. That the arsenical paste penetrates the cancerous tissue by a sort of special action which is limited to it. This action is not simply escharotic, for beneath the superficial, blackish layer, which the caustic has immediately disorganized, the subjacent morbid tissue seems struck with death, though it may retain its proper texture, and almost its ordinary appearance. Later, the cancerous mass is separated by the eliminatory inflammation which is set up around its limits. The same paste, which extends its action more than six centimetres deep in a cancer of close texture, when applied to superficial gnawing ulcers, usually only destroys the morbid texture, however superficial this may be, and respects the sound parts. 2. The absorption of arsenic is proportionate to the extent of surface to which it is applied; and as long as this does not exceed a two-franc piece in size, there is no danger from this source. A large surface should only be attacked by successive applications. 3. Arsenic which is absorbed is chiefly eliminated by the kidneys, during a space of time of not less than five, and not more than eight days, as amply demonstrated by Pelouze. Thus, if we allow nine or ten days to intervene between successive applications, all danger from absorption may be avoided.

M. Gozzi (*Bull. delle Sc. Med.* xx. p. 231) strongly recommends the following caustic for the destruction of cancerous growths: Corrosive subl. ℥j; caustic potass ʒss; arsenic and cerussa aa, gr. vj; to be made into a paste with starch and white of egg. While using this or other caustics, emollient poultices, ointments, &c. should be avoided, as diminishing their effects, unless the irritation produced by their application has been excessive. M. Gozzi objects to the usual plan of destroying the tumour, layer by layer, from the apex to the base, the latter becoming very indurated after these repeated applications, and offering great obstacles to the approximation of surrounding granulations and their cicatrization. He prefers applying the caustic laterally, in the direction where the tumour seems most inclined to separate.—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

31. *Tracheotomy in Epilepsy*.—D. RADCLIFFE read recently, before the Medical Society of London, a paper "On the Questionable Utility of Tracheotomy in the Treatment of any kind of Epilepsy." In order to arrive at the object of his paper, the author depended chiefly upon a critical examination of the cases of epilepsy in which tracheotomy had been practised, and to this examination he at once proceeded.

Mr. Cane's Case.—The patient was a boatman, aged 24, who had been epileptic for seven or eight years. The fits were severe and frequent. The operation was performed during a fit, in consequence of a state of asphyxial-coma that had lasted nineteen hours. The relief was immediate, and no fits have followed the operation. The habits of the patient were very irregular and intemperate, and he was discharged from his employment on this account about ten months ago. The tube is still worn, and, curiously enough, it is worn with a cork in the opening.

Mr. Anderson's Case.—The patient in this case was a stout, thick-set, muscular female, aged 36, the daughter of an epileptic father, and herself epileptic twenty-four years. Her complexion was ruined by the former use of nitrate of silver. The operation was performed in March, 1851, and the tube was worn until her death, which happened in a fit about four months ago. After the operation, the fits continued as before; possibly, a little less frequently and severely, but decidedly of the same character. Her health and spirits, also, are said to have undergone some slight improvement, and she lost a numbness in the right arm which had previously distressed her; but those who knew her best doubt the existence of any appreciable change of this kind until about two or three months before her death, sixteen months after the operation. The following notes of the final seizure are from Mr. Anderson: "Eight A. M. Had been up and dressed; heard to fall heavily. A woman removed the inner tube from the trachea, as she was in a fit apparently more severe than usual. She 'snorted loudly'; nails of a deeper colour. She was placed on the bed, as the woman thought she would recover as usual." The woman here referred to says, the patient was black in the face and violently convulsed, and that death must have taken place within ten minutes. The body was examined twenty-four hours after death, and the following are the particulars supplied by Mr. Anderson: "Body extremely muscular; cadaverous rigidity still present; not much fat. Head: Vessels of scalp much congested; skull thick, and dura mater so universally adherent that the skull-cap could not be removed until the dura mater was divided. The sinuses were filled with dark blood, and on the removal of the brain an unusual quantity of dark blood flowed from the spinal canal. On either side of the longitudinal sinus, and on the inner side of the frontal bone, two or three growths of bone were found, and to these the dura mater was so firmly adherent that, on attempting to separate it, it was torn through, and portions remained attached. The largest of the exostoses was about an inch and a half in circumference, and projected about half an inch from the surface of the bone. No alteration was observed in the corresponding portion of the cerebrum. The brain was softer than natural, and the puncta were more than usually distinct. There was little fluid in the ventricles, but the choroid plexuses were congested. Lungs: These organs were collapsed, occupying but little more than a third of the thoracic cavity, and somewhat congested at their posterior margin; structure healthy. Heart: Larger than usual (perhaps a fourth); cavities, especially the left, distended with blood. It was surrounded with fat, and its structure flabby; valves healthy. Liver, kidneys, and spleen, highly congested. Uterus natural, but cysts containing viscid fluid in the ovaries. Small intestines (especially lower part of the ilium) congested, and the mesenteric glands enlarged. Internal jugular, above the level of the omohyoid, almost empty."

Mr. Mackarsie's Case.—R. W—, aged 40, and epileptic for twenty years. Latterly, the fits had become much more frequent and severe, the subsequent torpor much prolonged, and the mind much impaired. His complexion had a

¹ Dr. Jenner examined a portion of this heart microscopically, and found some slight degree of fatty degeneration.

congested, mahogany-like tint. Two years previously, he had had two attacks of paralysis; but his present health, apart from the fits, is pretty good. Tracheotomy was performed on the 24th of August, 1852, by means of the tracheotome. On the day following the operation, inflammatory action began in the lungs, and continued until the 6th of August. Thus, August 25th: "A large quantity of mucus has passed from the tube." 26th, "The patient has been hot and feverish, and passed a restless night; tongue furred; pulse 100; a large quantity of mucus passing through the tube." 27th, "Pulse 100, full and hard." 28th, "Tongue still furred." 31st, "Violent hæmoptysis." Sept. 1st, "Violent return of hæmoptysis;" "left lung congested, dull on percussion, and respiratory murmur feeble." 2d, "Expectorates bloody mucus;" "dulness on percussion not so marked; respiratory murmur more audible." 3d, "Still bloody expectoration." 4th, "Pulse 90 and soft." 6th, "Pulse 75, soft; respiration free; dulness on percussion gone." Again, on the 20th September, and for some days afterwards, there was feverishness, attended with bilious vomiting, requiring salines, calomel, and prussic acid. The fits, however, kept away until the second week in October, when four or five slight ones happened. After this, true fits made their appearance, and continued to recur with their usual frequency, though in a mitigated form, until about two months ago, when the tube was withdrawn by the patient's wife (who throughout has been greatly opposed to, and dissatisfied with, the operation), since which time the fits are as bad as ever, and the mental condition worse than ever. Mr. Mackarsie is fully of opinion that, during the time the tube was in the trachea, the mind was more active, the complexion less congested, and the fits less severe.

Mr. J. A. Lockhart Clarke's Case.—In this case, the patient was a female, 23 years of age, who had been epileptic for twelve years. The fits were very violent and very frequent. Laryngotomy, not tracheotomy, was performed about three months ago, and the tube worn until recently, when it was removed, in consequence of there being no perceptible alteration, either in the frequency or in the severity of the fits.

Mr. Henry Thompson's Case.—The main facts of this case are substantially these: The patient was an epileptic of twenty years' standing, whose intellect had suffered considerably. Tracheotomy was performed nearly three months ago. Before the operation, the fits were frequent and violent, and the subsequent sopor prolonged; since the operation, the fits have altered little in frequency and violence; but the subsequent torpor is greatly abridged. The general health also is improved, and the mind much clearer than it was.

Dr. Tyler Smith's Case.—Sarah B—, the wife of a gamekeeper at Debden in Essex, and the mother of four children. She has been epileptic since puberty, and chiefly about the menstrual period. The numbers of the fits during the month were sometimes as many as twenty, but generally not more than five or six. The fits themselves were usually preceded by the scream, and attended with much lividity of the head and neck; the convulsions were very violent, and the subsequent sopor protracted. The mental state was one of great inanity. There had been several paroxysms of insanity, and twice the patient had been in a lunatic asylum. During the month that she remained in the hospital, before the operation, there were nine fits; during the month, after the operation, there were five fits. The operation itself was performed on the 13th of February, by Mr. Lane. On the 15th, 16th, and 17th, she was restless, wakeful, and unruly, with heat of skin, raised pulse, and furred tongue. She threw a glass at the nurse, and persisted in attempting to withdraw the tube from the neck, and her state required constant watching. Three weeks after this time she was greatly depressed, her pulse feeble and wretched, her countenance anxious, and much viscid, fetid phlegm passed from the tube; and this state continued for the greater part of a week. Since this time she has rallied, and now her mental condition is much better than it was during the month before the operation; her fits also are much better, the period of sopor is somewhat abbreviated, and the cry is lost; but still the convulsion is violent, the venous turgescence of the head and neck considerable, though less than it was, and once at least the tongue has been bitten.

Dr. Andrea Verga's Case.—This case cannot strictly be classed with the

former cases, for the operation was performed unintentionally, and by the patient himself; but in all other respects it fulfils the required predicaments. It was originally reported in one of the Lombard journals, and copied thence into an early number of Schmidt's *Jahrbuch* for 1852. The main particulars are the following: A. B——, aged 25, was admitted into the great hospital at Milan, with his throat cut and his genitals severely mutilated, in consequence of a determined attempt at suicide. Six months afterwards, the wounds had healed, with the exception of a free fistulous opening in the trachea; but the fits and despondency had undergone no change. The breath passed freely in and out of the artificial opening, and the fits recurred with equal frequency and force, whether that opening were closed or not. In this state he was removed to a madhouse, and there he remained for three years, when he died of tabes, the fistula continuing open, and the fits unabated up to the end. After death, the brain and skin were found congested, and the bowels somewhat ulcerated.

Comments.—Such are the clinical data upon which as yet the remedial value of tracheotomy in epilepsy has to be tested, and the question is whether or not they realize Dr. Hall's expectations, and justify the comments which have been passed upon them.

What of Mr. Cane's case? Here, undoubtedly, the results seem most marked; but do they not prove too much? There are no fits whatever after the operation, and this is not to be expected even on Dr. Hall's own premises. Moreover, fits do happen in all the other cases, and in some of them very severe fits; and this fact gives a probability of at least seven to one that the fits in this case did not keep away in consequence of the operation. It is to be remembered, also, that the wearing of the cork in the tracheal tube did in fact place the patient in the same predicament as that in which he was before the windpipe was opened. Why the fits kept away it is not necessary to inquire, for nothing is more certain than that epilepsy may suddenly disappear, and keep away for a long time, without any apparent cause.

What of Mr. Anderson's case? Here the main questions are as to the character of the fits, the state of the general health, and the cause of death. Were the fits improved in character? Possibly, but not probably. Dr. M. Hall, in his lectures at the College of Physicians, allowed that a fit had followed very shortly after the operation, in which the tongue had been bitten. A Mrs. Dwellie, living in the adjoining garret to the patients, and who frequently went to the patient's assistance when she heard the noise and struggle of the fit, states explicitly that the convulsions were as frequent and violent, and the subsequent sopor as prolonged, after the operation as before it. A Mrs. Smith, also, an aunt of the patient, who had known her from childhood, and who saw her several times a week during the whole of her life, makes the same statement. Miss Lewis, on the contrary, who lives on the first floor of the house in the garret of which the patient lived, thinks the fits, after the operation, were not so severe or frequent as before it; but why she thinks so is not very evident. She saw her in but few fits, and in none, there is reason to believe, from the commencement. Indeed, it is to be understood that this witness was infirm and half crippled, and often quite an invalid; that she had to be fetched from the top of the house, and then to mount up two flights of stairs before she could get to the place where the patient was; so that the fit must have been far from its commencement before she could see it. The last fit, also, which was evidently of great violence, is spoken of only as "apparently more severe than usual," showing that the ordinary fits were severe, and the patient was "expected to recover as usual," showing that death occurred unexpectedly in what was regarded as an ordinary fit. Concerning the state of the general health there are two opinions. Miss Lewis says this was better; Mrs. Dwellie and Mrs. Smith say there was no perceptible improvement until within two or three months from her death, fifteen or sixteen months after the operation. The cause of death is very obscure. It could not be, however, from the strangulation of laryngismus, for the inner tube was removed at the beginning of the last fit, as it was in all the fits in which the patient was watched. Indeed, there was never any neglect or mismanagement about the tube (which reflects the highest

credit on Mr. Anderson's mechanical ingenuity), and the patient herself had so schooled herself to it that she could remove and cleanse it, and did so remove and cleanse it many times a day. The fatty state of the heart, as Dr. Hall supposes, might have had something to do with death, for death happened shortly after the commencement of the seizure; but, on the other hand, it is not to be forgotten that there was stertorous breathing, blackness and turgescence of the head and neck, with distended sinuses, distinct cerebral puncta, and other signs, showing that death might have been caused by coma.

What of Mr. Mackarsie's case? Here, it is not difficult to imagine that the pulmonary inflammation and the subsequent febrile action may have had something to do with the absence of the fits during the first two months after the operation; for inflammation and fever are not only uncongenial to, but incompatible with, epilepsy. This inflammation, also, even after its cessation, may have had something to do with the amelioration of the fits, by acting derivatively in regard to that mischief in the brain, the existence of which is to be argued from the two former attacks of paralysis. The fact, however, is not to be doubted, that the fits were "mitigated," and the mental state ameliorated after the operation. This is undeniable. Still, the fits were true fits, and not mere warnings, and there is little or no reason for supposing that they gave up the characters of *epilepsia gravior* for those of *epilepsia mitior*; nor is it clear that the mind was not invigorated by hope, or some other psychical stimulus, and that the fits were not subdued by the mind thus invigorated, the tracheal tube all the while acting merely as a charm by which to propitiate hope and her allies; nor is it clear that any diminished sopor after the fit may not have been the consequence rather than the cause of the mental invigoration. Time must elapse before these doubts can be resolved; and in the mean time it must not be forgotten that the wife of the patient was opposed to and dissatisfied with the operation.

What of Mr. Clarke's case? Nothing favourable to the operation.

What of Mr. Henry Thompson's case? In this case the fits recur as frequently as before, but the subsequent sopor and intermediate stupor are greatly diminished. Still, it is by no means certain, or even probable, that the fits after the operation were of the character of *epilepsia mitior*, or that the diminished sopor and stupor were not the consequences of faith in the operation rather than of the operation itself.

What of Dr. Tyler Smith's case? In this case, it is more than improbable that the fits underwent that modification which they ought to have done, or that any improvement in the symptoms is really due to the operation. All the fits after the operation were certainly not of the type of *epilepsia mitior*, for the convulsions were severe, and once at least the tongue was bitten. It is doubtful also whether the fits were really less frequent. During the first month of hospital life there were, it is true, nine fits, but this was a time when the patient was exposed to the agitating publicity of an hospital ward, with the fear of an operation before her eyes. The usual number of fits during the month would also seem to be from five to six, though occasionally ranging so high as twenty, and these numbers correspond with the numbers after the operation. It is clear, also, that as yet little can be said about mental improvement after the operation, seeing that a paroxysm of insanity and a week of extreme mental inanity form a part of this period. This being the case, it is not necessary to speculate whether such improvement is psychically or somatically the result of the operation.

What of Dr. Andrea Vergo's case? Possibly very little, but certainly nothing in favour of the operation.

On looking over these cases, therefore, one conclusion is inevitable, namely, that severe fits have followed the operation—fits in which the tongue has been bitten, and one fit in which death has happened. Almost uniformly, the convulsion has been as bad as ever. In Mr. Anderson's, Mr. Clarke's, Mr. Mackarsie's, and possibly in Dr. Andrea Verga's cases, the sopor after the fit, and the torpor between the fits, were unaffected; in Mr. Henry Thompson's, and possibly in Dr. Tyler Smith's cases, they were relieved, though *how* they were

relieved remains a matter of doubt. As judged, therefore, by the results of the cases in which it has been practically tested, the utility of tracheotomy in epilepsy would seem to be extremely doubtful; so doubtful, indeed, as to render it a matter of paramount and imperative necessity to pause and ponder well upon the evidence before again resorting to it, and this all the more because it is by no means certain that the remedy is not more dangerous than the disease, and because the inevitable result of the operation is to convert the patient into a dumb, whistling wretch, whose every breath is an annoyance to himself and others. In order to do this, it will be necessary to examine epileptics whose windpipes are sound, as well as those whose windpipes are not sound. It will be necessary to determine how much of the epileptic asphyxia depends upon spasmodic "setting" of the whole chest, and how far this "setting" will negative the results of an opening in the windpipe. It will be necessary to go to the root of the matter, and determine whether, apart from organic disease, the larynx does close spasmodically in epilepsy, and whether such closure can exist at the time of life when epilepsy happens. In the mean time, the absence of any stridulous inspiration in epilepsy, such as is heard in laryngismus stridulus, in the whooping-cough of children, and in certain organic diseases of the larynx, would seem to be a serious if not fatal objection to the idea of laryngismus in epilepsy. The age of epileptics—namely, youth and manhood—is also an objection to the same effect; for, judging from the history of laryngismus stridulus and whooping-cough, pure spasmodic closure of the larynx is usually confined to the period antecedent to that at which epilepsy commences; indeed, as a rule, laryngismus stridulus is an affection of teething, and whooping-cough loses its characteristic hoop before puberty. This deduction is also borne out by the results which follow the division of the laryngeal nerves in the lower animals, as dogs and cats; for in these experiments the young animal is immediately suffocated by the closure of the glottidean chink, whereas the old animal goes on breathing without any evident diminution in the current of air.

Dr. CRISP regretted the absence of Dr. Marshall Hall, and was disposed to regard with favour the operation proposed by that gentleman. He deemed the whole subject worthy of farther inquiry. Many epileptic patients are anæmic, but others are plethoric.

Dr. BARNES believed the subject to be very important, and the discussion of it not premature. He gave credit to the author of the paper for having recited the cases with fairness and candour, but inferred that Dr. Radcliffe had misapprehended Dr. Hall's views on the subject. He affirmed that each of the cases recited had exhibited marked improvement after the operation. Mr. Cane's case had been very successful; he admitted that. Mr. Anderson's patient had not died from asphyxia; but he did not admit Mr. Radcliffe's explanation. Dr. Jenner had found the heart in a state of fatty degeneration—a physical condition likely to cause death. Laryngismus is not met with in every case of epilepsy, neither is its presence essential.

Dr. TYLER SMITH, in reference to his own case, explained that the attack of mania after the operation was probably to be attributed to the influence of chloroform. The fits are slighter, and the condition of the mind is clearly improved. He believed laryngismus to be essential to the disease, and that it occurs in adults without the stridulous breathing, except that the peculiar cry is a modification of that symptom. Lividity of countenance may be induced by spasm of the muscles of the neck, without the occurrence of laryngismus or closure of the glottis. Tracheotomy is not a serious operation.

Mr. DENDY thought that Dr. Hall had not been hardly treated, and that the cases had been fairly recited by Dr. Radcliffe. Tracheotomy is proposed, not as a remedy for epilepsy, but to relieve one of its symptoms. It is not a dangerous operation; yet he doubted if medical men would themselves submit to it. Laryngismus is neither the essence nor the proximate cause of the disease, and when it occurs it may pass away without the exhibition of any remedy. It is not important to decide whether the disease be essentially anæmic or not; but the case must be treated according to the nature of the patient's constitution. Congestion is not always productive of asphyxia, and may be relieved

in some cases without the operation, or indeed without any remedy whatever. He believed that the good effects of the operation had been exaggerated.

Mr. H. THOMPSON, on referring to his own case, believed that the nature of the fit had been well made out, and stated that the family were unanimous in asserting that much benefit had followed the operation. The mind is clearly improved. He had witnessed the occurrence of a fit that morning, and found that loss of consciousness continued but during three or four minutes, instead of four hours, as had usually been the case previous to the operation. On that occasion, the tube was not in a clean condition, and the same fact had been noticed on the occurrence of all the fits subsequent to the operation. He had removed the tube, and observed that respiration appeared to be suspended for a few seconds, no sound indicating the passage of air through the trachea.

Mr. BULLOCK described the present improved condition of Dr. Tyler Smith's patient.

Dr. CAMPS approved the operation under the circumstances selected by Dr. Marshall Hall. He considered that an attack of epilepsy is not antagonized by existing inflammation or fever.

Mr. C. CLARK mentioned a case which he had relieved by artificial respiration.

Dr. RADCLIFFE, in reply, said that he had taken up the question under consideration, not because it clashed with any of his own opinions respecting convulsive diseases, which it did not; but simply as a matter of fact that, from its importance, ought not to be passed over any longer. He had frankly expressed his present convictions; but he was perfectly willing and ready to change them whenever they were shown to be wrong. He had, he trusted, acted with all honour and sincerity, and his only regret was that Dr. Marshall Hall (whom he and all the profession highly honoured) had not been present in person to hear and reply to what he had ventured to say. In reply to an observation that had been made in the discussion, he would only say that he could not understand how the epileptic cry could be a proof of laryngismus.—*Lancet*, May 14, 1853.

32. *On Cysts in the Neck.* By M. SEUTIN, Professor of Clinical Surgery in the University of Brussels.—These serous cysts are generally easily cured. The following is the plan I have for some time adopted: I puncture the tumour, and inject it with tincture of iodine diluted with one or two parts of water, or I replace the trocar canula by a bit of a gum-elastic catheter, cut slanting at one end, and by the other fastened around the neck with a tape. The object is to cause adhesive inflammation. If these are not sufficient, I repeat the injections. When a suitable amount of inflammatory action is established, I then approximate the walls of the tumour by moderate pressure. This mode of treatment which I have always used was first suggested to me by that which Baron Larrey used for hydrocele—a disease to which I have always compared these serous cysts of the neck. Before M. Velpeau recommended the tincture of iodine, I used either alcohol diluted with water or warm wine. When the parietes of these cysts are indurated and thickened, and the lining membrane resting on condensed cellular tissue, they cannot be approximated so as to obliterate the cavity, then it will be necessary to make a free incision into them, and insert tents of lint, smeared with the red oxide of mercury, or some other caustic, so as to irritate and cause the lining membrane to granulate.

If there are more than one, or if the tumour be multilocular, they must each be operated on. Sometimes two can be included in one by making a communication between them, so that in place of two, it will only be necessary to make one puncture in the skin. As a consequence of this treatment, little hard fibrous tumours caused by the thickened membrane of the cyst, are left; they are, however gradually absorbed, but some of them not for eighteen months or two years; yet, even if they remain stationary, they ought not to be removed, as they never can interfere with any important function, as the voice, respiration, &c. They also generally contract intimate adhesions with the carotid artery or jugular vein. They inclose veins, which, on being cut, might allow of the entrance of air, and the numerous vessels of this region frequently give rise to

consecutive hemorrhage. Lastly, the operation for their removal takes up a long time (from an hour to an hour and a half), is harassing to the patient, exposes a large extent of surface, causes suppuration, which may extend into the chest, or purulent infection may supervene. This last is a very frequent consequence on operations about the neck, owing to the great number of vessels, glands, and veins in that region. Finally, all surgeons who have removed them, including Dupuytren, Boyer, Roux, &c., have repented of it. De Labacherie has published in the *Mémoires de l'Académie* similar unfavourable results, and I myself, from the result of experience, would carefully avoid it. It will be sufficient to use some iodine ointment to hasten their absorption. As to the cysts, they should be operated on as soon as possible while they are as yet small, as their lining membrane after operation forms a suppurating surface, and the smaller this is, so much the less inconvenience will be likely to follow; also the induration left after will be less marked. Similar tumours containing blood require the same mode of treatment, but their external covering being thicker, they resist the action of injections, and will require a longer time to be absorbed. Cases are then given.

1. Of a cyst attached by a pedicle to the cricothyroid membrane, dissected out; operation succeeded. This tumor was so hard that it was supposed at first to have been fatty.

2. Of a cyst at the anterior and lower part of neck, treated by injections of diluted alcohol, and keeping in a bit of gum-elastic probe, cured at the end of three months.

3. Of an enormous cyst on the left side of the neck, extending above to the lower jaw, below to clavicle, to the median line in front, and trapezius muscle posteriorly, and afforded a distinct sense of fluctuation. It was punctured at its lower part, and its interior irritated by scraping it with the end of the canula, and injected with solution of caustic potash. Violent inflammation supervened, which was abated by antiphlogistic means, emollient injections thrown into the sac through the canula, which was left in the wound, so as to let the pus, which was secreted in abundance, run out. In two months the parietes were agglutinated, a large extent of surface remained indurated and a little thickened, but entirely disappeared at the end of half a year.

4. Of an immense tumour extending from the mastoid process to an inch above the clavicle, occupying the side of the neck; the head was turned towards the opposite side; fluctuation was manifest; an exploratory puncture gave exit to some dark-coloured serosity. It was then tapped with a tolerably large trocar. The fluid contained little whitish fibrinous clots. Iodine injections were used, and the tent of gum-elastic left in the opening. After five days, inflammation ensued, suppuration followed, and in three or four months the tumour was obliterated.

5. A tumour containing grumous blood, about the size of a pigeon's egg, along the edge of sterno-mastoid muscle, treated by iodine injections, and obliterated in twenty days.—*Dublin Medical Press*, April 6, from *Presse Médicale Belge*.

33. *Extensive Edema supervening after Removal of a Portion of the Tonsil*.—Dr. JOHN WILLIAMS communicated to the Surgical Society of Ireland (March 12) the following curious case of extensive oedema supervening after the removal of a portion of an enlarged strumous tonsil.

The subject of the case was a gentleman residing in the county of Cork, ætat. 36, a stout muscular man, but with a short thick neck, fair complexion, and evidently evincing the strumous diathesis. Until the winter of 1849, he had enjoyed excellent health, but during this period he was subjected to the very great annoyance of almost constant inflammation of the tonsils after the least exciting cause. His favourite amusement (shooting), he was obliged to give up altogether. This state of things continued until July, 1851, when his friends, uneasy at his laboured and stertorous respiration when he slept, urged him to get medical advice. He did so. Local and constitutional treatment were both had recourse to ineffectually, with respect to causing an improvement in his respiration, though his general health was materially served. In August, 1852,

dyspnoea to such an alarming extent set in, attended with periodic attacks of spasmodic action of the muscles of both the pharynx and larynx, that he would suddenly awaken as if suffocating, and gasp for breath. On these occasions, "he dreaded to go to sleep, lest he might be suffocated."

Dr. Williams accompanied the patient to Dublin, where Sir Philip Crampton and Mr. Adams were consulted, who considered it absolutely necessary that a portion of the right tonsil should be removed. Dr. W. states that the part of the tonsil which required removal was the inferior portion of the gland, and was wellnigh in contact with the epiglottis. Both tonsils were much enlarged and indurated, with broad bases, presenting, in fact, a well-marked example of strumous enlargement. The offending part was quickly removed by the guillotine. Hemorrhage to a very trifling extent followed. No inflammation of any extent succeeded the operation. Cold water was the only gargle he employed. His respiration was so much improved that on the first night he slept tranquilly. On the fifth day he was enabled to give up the farinaceous diet, which he had previously confined himself to, and at the end of the week he felt so well as to be able to return to Cork by train. He complained a little of the journey; but on the third day after he was so well, I thought I might with safety leave him. By the next post, however, I received a note stating he was dangerously ill, and on my return, what was my amazement, when I perceived *most extensive cedematous swelling* at both sides of the neck (particularly at the right side, beneath the angle of the jaw; and on looking into the mouth, the same existed. With the greatest difficulty I was able to reach the epiglottis, but it fortunately escaped. His suffering was very great. Every position, both in and out of bed, he sought in vain for relief. Parched with thirst, he would make signs (he could not speak) for a spoonful of drink, but no sooner did he endeavour to swallow it, when spasm of the muscles of the pharynx would ensue. Punctures were made into the velum palati, for it projected forwards considerably, blisters put on, and the local application of a strong solution of nitrate of silver, and enemata; for deglutition was in such a state that nothing could be swallowed. After ten or twelve hours he was considerably relieved. Blisters were repeated. The swelling throughout was not characterized by a blush of redness to any extent, nor did the pulse range much above its ordinary standard. The concurrence of these circumstances, with the fact that no constitutional symptoms ushered in the attack, confirmed my belief that it was pure oedema, not partaking of the erysipelatous character. I remarked previous to the attack, that the cut surface of the tonsil exhibited the same appearance as it did immediately after the operation, the contraction I daily looked for not having occurred. On the fourth or fifth day after he began to improve; he became profusely salivated; his gums and cheeks swollen, the latter bearing deeply the impress of the teeth. This improvement, however, was but of transitory duration, for suddenly the same amount of cedema again took place, and like difficulty in deglutition, but there was no dyspnoea of any great extent. As may be expected, his strength now gave way, his pulse ranged from 96 to 100, was weak and compressible. It was now evident that tonics should be freely given, but not even a teaspoonful could be swallowed until he inhaled the vapor of steam for some time. By the same local treatment as before, he began again to improve, and continued to do so, though very slowly. Six weeks fully elapsed before he was able to make use of solid food. All dyspnoea is now gone, and he considers himself quite well. During the winter, the least continuance of damp weather much affected him.—*Dublin Medical Press*, April 6, 1853.

34. *Treatment of Obstinate Strictures of the Urethra by External Incision upon a Grooved Director.*—[About nine years ago, Prof. SYME, of Edinburgh, communicated to the profession a mode of treating obstinate strictures of the urethra, which he professed to have practised successfully. His proposition met with little favour, some of his statements were denied, and when one or two of the London surgeons tardily tried the operation the cases were reported to have terminated fatally. An angry discussion then sprung up, involving so much personal feeling that it became almost impossible to determine the real value of

the operation or the degree of success which attended it. In April last, Mr. Syme went to London, and read a paper on the subject before the Royal Medical and Chirurgical Society, a full report of which we shall lay before our readers. We shall also give the report of the discussion which took place, as it is also interesting, though most of the hospital surgeons of London absented themselves from the meeting, evidently shrinking from becoming involved in the angry discussion which it was anticipated the reading of Professor Syme's paper would call forth, as the professor, in some of his publications, had handled his opponents very roughly.]

Mr. Syme commenced by apologizing for venturing to lay his observations before the practitioners of London. The comparatively small field which it had been his province to occupy might appear hardly to warrant such a course. It might also be said that he might have availed himself of the ordinary channels, instead of reading a paper to the Royal Medical and Chirurgical Society. But he would plead as his justification the peculiar circumstances in which he felt himself placed, and his sincere persuasion that he had devised an easy, safe, and effectual mode of relief from one of the most distressing infirmities we are acquainted with. He was desirous that this benefit should be extended; but, as the reception of his proposal had been impeded by the statements which had emanated from metropolitan publications, he believed that, although the truth might and no doubt ultimately would prevail, a long time must elapse before it could be embraced through the ordinary course of experience. And any attempt to unravel or refute the various statements which had been made concerning the operation, by tracing out their errors, would have been a task no less unpleasant than unprofitable. Under those circumstances, it had seemed to him that the only practical mode of conduct was to come personally before that Society, which, more especially, was understood to represent the respectability and intelligence of the practitioners in London; to explain the plan of treatment which he had endeavoured to introduce, and to state the facts upon which he was willing that its credit should rest, and supply any farther information which might be required by any member of the Society who had entertained a different opinion upon the subject.

It would be unnecessary to detain the Society by an account of stricture; the object being to direct attention to certain forms of the disease, which resist the hitherto established means of treatment, and which seem to require some other remedy. In one of these forms of stricture there is extreme irritability, and attempts to effect dilatation are followed often by violent local and constitutional disturbance. In another, the stricture might be dilated, but speedily contracted again, so as to renew the symptoms attending the first stricture; and in the third form the stricture might be dilated sufficiently to admit the insertion of a full-sized instrument, but micturition remained painful, difficult, and uncertain. For the remedy of these three forms of stricture, there were various established means of treatment which might be referred to two heads—dilatation and the use of caustic; these have proved unavailing beyond a temporary amelioration, and have too frequently aggravated the evil. He would not calculate how many lives had been rendered miserable through the vain struggles on the part of surgeons to remedy the disease, but he would simply notice the will of M. Argenteuil, who bequeathed funds sufficient for bestowing periodically a prize of £500 for the greatest practical improvement in the treatment of stricture.

The simple bougie was quite sufficient for the treatment of ordinary strictures; but for the effectual remedy of stricture when it assumed one or other of the peculiar forms to which attention had been directed, he maintained that a free division of the contracted part of the urethra was essentially required. For this purpose, he introduced a grooved director; and he believed that there was no stricture which, through time and care, might not be made to admit an instrument of this kind. The patient being then placed upon his back at the edge of the bed, and the knees held up, an incision of about an inch and a half in length, was made in the perineum, sufficient to admit the knife, while the thick texture was freely divided to the extent of an inch or two, or more if necessary. A No. 8 catheter was afterwards retained in the bladder for at least two, but not more than three days. The procedure which was described

was extremely simple, and might be accomplished in a very short time. At the same time, no operation demanded a more exact precision of performance, whether regard were had to the attainment of its object or to its immediate effects. Unless the urethra were divided at the proper place, no permanent benefit could result. If the knife were not confined to the middle line of the perineum, there would be the greatest risk of hemorrhage and extravasation of urine. M. Reybard, who appeared to follow the plan of internal incision, had said that, whatever were the form of the stricture, the incision ought always to be directed laterally, so as to avoid the artery of the bulb placed below. But the Academy of Medicine, with regard to the position of the artery of the bulb, had promulgated a great error in the practice of surgery; since the vessel lay at the side of the canal, and could be avoided with certainty only when the incision was made exactly in the middle line. Mr. Syme had heard that in one of the London hospitals the operation had been performed, professedly according to his principles, without any grooved conductor, the only guide being a small silver catheter. He believed it not possible to make a straight, continuous incision through the stricture on such an instrument. He had read of a case in which a catheter, instead of being retained for two, or at most three days, had been left in for six weeks, notwithstanding the well-established fact that the presence of such an instrument, so far from promoting, greatly impeded the closure of the fistulous opening into the urethra. With still greater astonishment, he had heard of operations, performed in London and Paris, considered to be in accordance with his principles, but without any instruments at all being introduced through the stricture. For the disastrous results of such proceedings, the operation which he had proposed could not be held responsible. The only resources of danger were hemorrhage and extravasation of urine. When the knife was properly applied there could be no bleeding, except from the superficial perineal vessels, and the cells of the corpus spongiosum. There was seldom more than a teaspoonful of blood; and with oozing it hardly amounted to one or two ounces. If the patient were full of blood, the quantity discharged in the regular way might be allowed to go on to the amount of a teacupful. This would prove rather salutary than otherwise; and was hardly to be prevented, except the patient were in a nervous state from unnecessary alarm; and this small amount of bleeding could always be restrained by a piece of lint applied by slight pressure for a few hours.

With regard to the extravasation of urine, there could be no doubt that the circumstances most favourable to its production were openings through the deep fascia of the perineum. Hence arose the danger of the operation for impermeable stricture by making deep incisions into the perineum. According to his (Mr. Syme's) proposal, only the fascia lying immediately under the perineal integument was incised, and the knife was guided with certainty through the whole stricture. As a farther precaution, he retained the bougie until the cut surface was sealed up; so that extravasation of urine was less likely to happen than hemorrhage. It was this consideration which had originally led him to regard the operation as free from danger; and, as he had performed it upwards of seventy times, without any fatal or alarming consequences, it would be allowed that his anticipations had not been unduly sanguine.

The following was the course of events which usually followed the operation: The patient having been placed in his bed, on awaking from his chloroform sleep, frequently had considerable difficulty in believing that the operation had been accomplished. He then would begin to feel the blessing of constant relief, no trace of suffering appearing; he was tranquil and easily managed, not requiring opiates, or any other treatment, until there should appear to be a greater degree of oozing from the wound than convenient, on which a piece of lint might be applied until the bleeding ceased, which it usually did in a few minutes. The diet should be chiefly farinaceous, as animal food might cause thirst and restlessness. Cooling drinks, according to the patient's taste, should be supplied; while wine and other stimulants were carefully withheld. At the end of forty-eight hours, Mr. Syme generally removed the catheter; but another day's delay on the whole seemed advisable, because the escape of urine through the wound might thus be prevented. In about one-third of those cases, the

instrument had remained only a shorter period. A curious train of nervous symptoms, consisting of rigors, bilious vomiting, suppression of urine, and delirium, sometimes appeared, to the consternation of all those who were unaware of their nature. They occurred most frequently after the catheter was withdrawn; and they appeared to depend upon the urine resuming its natural course. They had never lasted more than thirty hours, and seldom little more than half that time. Opium and other remedies had their disciples; but the symptoms only required for their removal time and patience, so that the surgeon might confidently assure himself that there was no ground whatever for the slightest alarm or uneasiness for the cure. Recovery might be considered complete in the course of a few days, when the patient would pass water in a full stream, with ordinary frequency, having nothing to remind him of the operation, except the superficial appearance of a wound which soon contracted and cicatrized. After the withdrawal of the catheter, the urine continued to escape now and then through the wound, but it soon diminished to a few drops, and gradually resumed its proper course. The cure must be maintained by the introduction of a full-sized bougie every three or four weeks, afterwards at more distant intervals, according to the circumstances of the case.

The author then related some cases illustrative of his treatment; they were first, cases of stricture of the urethra which had resisted the established form of treatment; secondly, stricture of the urethra impermeable by surgeons of experience and reputation, but which might, through time and care, permit the introduction of an instrument, and the free division of the thickened and contracted part of the canal upon a grooved director; so that complete and permanent relief, even in the most distressing and obstinate conditions of the stricture, might be afforded. Each case might not contribute evidence on all those points; but the testimony of the whole must be considered.

CASE I.—About twelve years ago, Mr. Syme was directed to take charge of a gentleman suffering severely from stricture, which had been contracted upwards of twenty years. During the greater part of this period, it had admitted of such palliation from the use of a bougie, as not to interfere materially with his comfort; but latterly it had become excessively aggravated. Day and night the calls to make water were almost incessant, and in the laborious effort to empty the bladder the patient was constantly exhausted. He was troubled at the same time with an involuntary discharge of urine. The stricture, which was anterior to the bulb, had contracted so as no longer to permit the introduction of an instrument, and the tall and vast frame of the patient was emaciated to a shadow; and he became so sensitive, that the slightest change of weather greatly aggravated his complaint. In these circumstances, Mr. Syme commenced with introducing a bougie of the smallest size; and when in the progress of the case he had arrived at No. 5, he found the stricture obstinately opposed to any farther dilatation. The degree already attained had afforded him no relief whatever. Confinement to bed was then tried, with retention of the catheter, until one of the largest capacity was introduced. The patient's health improved, and he evacuated his water with so much more ease, that Mr. Syme expected no more trouble; but the day after the catheter was withdrawn, the symptoms were renewed without any diminution. Soon after this, Mr. Liston having come on a visit to his friends in Edinburgh, Mr. Syme asked him to see this patient; he advised internal incision with a lanceted catheter. This was accordingly done, so freely, that a full-sized bougie was passed immediately afterwards without the slightest obstruction. As no benefit, however, resulted beyond a partial relief of only one or two days' duration, the process was repeated, using two catheters, which cut on two sides, but with no material difference in the effect produced. The patient, who had cheerfully submitted to these long and various efforts to afford relief, now desired Mr. Syme to do something effectual. He suggested the performance of external incision on a grooved director. The patient eagerly caught at this proposal, and from that time, more than ten years, has enjoyed the most perfect local and general health.

CASE II.—In 1844, Dr. Wickham, of Penrith, came to Edinburgh with a case of stricture, which had proved peculiarly obstinate and distressing. Although the patient was under 50, it had existed for twenty-seven years. Latterly, the

symptoms having been much more severe, the assistance of a practitioner had been required; but the patient returned home after two months' assiduous attempts without ever getting an instrument introduced. There was now a fistula; and such stony hardness as to suggest cartilage. Upon examination, a full-sized instrument could be passed without pain or bleeding. The patient returned home; but in the course of a few months came back with the symptoms of stricture no less urgent than before. Mr. Syme introduced a grooved director into the contracted part, and freely divided it by internal incision; the patient soon felt quite well. More than eight years have elapsed, and he still remains well.

CASE III.—A gentleman, aged thirty, came from Sunderland to put himself under Mr. Syme's care, on account of a stricture in the urethra. After many abortive efforts, the patient, despairing of relief, resolved to endure the complaint without any attempt at a remedy. Symptoms of frequent incontinence added to difficulty of evacuation set in, and he placed himself under Mr. Syme's charge. At the end of six weeks he returned home in the enjoyment of perfect health; and Mr. Syme had heard recently that he continued to do so.

CASE IV.— —, aged thirty-five, married, of correct habits in his mode of life, applied to Mr. Syme in the month of October, with a stricture anterior to the bulb. For the last five years he had been under the treatment successively of three most eminent surgeons in London, who had employed dilatation by bougies with the effect of affording partial relief, but neither complete nor permanent. A director having been passed, an incision was made in the middle line of the perineum, and pushed the knife forwards so as to divide the stricture completely. A No. 8 catheter was passed with perfect facility, and retained in the bladder for forty-eight hours. The nervous state to which reference had been made as a not infrequent occurrence, commenced and continued about the usual period so as to alarm the patient and his friends. To the patient's great comfort, urine flowed copiously in a full stream, very different from that to which he had been so long accustomed; and recovery was in every respect complete.

CASE V.—Captain — applied to Mr. Syme in January, 1851, on account of a stricture, of which he gave the following history: "In 1829, I was serving on board one of Her Majesty's ships in the Mediterranean, when I first observed the stricture. Bougies were then introduced; and in a short time the complaint seemed to be overcome. I continued until 1832 in the East Indies, on board one of Her Majesty's ships, and I suffered very much. I sought relief on board ship, but found none, as the medical man could not pass an instrument. This state of things continued for two years, no instrument having been passed. In 1836, I sailed as lieutenant in a ship for the Arctic regions, when I suffered great inconvenience in making water. I was there when the ice broke up, exposing the ship to great danger, and obliging the officers, as well as men, to expose themselves to a very low temperature—80° below freezing point upon some occasions. At the end of the voyage, I went to Haslar hospital, where I remained for six weeks. I then went to an eminent surgeon, who succeeded in passing bougies up to No. 6. He then used a catheter with a lancet blade with little benefit. I suffered severely when on the coast of Africa; and, on two occasions, I felt it necessary to decline offers of appointments in the service."

Upon examination, Mr. Syme found a slight contraction, about three inches from the orifice, anterior to the bulb. He passed bougies up to No. 4, but farther dilatation was resisted; and as the patient had experienced no relief from the degree afforded, he divided the contracted part by external incision. After the usual symptoms, he made an excellent recovery, and continues well.

CASE VI.—Mr. —, aged twenty-seven, from his earliest recollection had experienced a degree of difficulty in evacuating his urine. In 1843, he went to the East Indies, and there suffered severely from attacks of gonorrhœa. Having returned home, he was exposed to severe cold in Ireland. Next year, a fresh attack of gonorrhœa was followed by aggravated symptoms of stricture, which led to the employment of various measures without success. Being in the

public service, he went to Haslar hospital, at Portsmouth, where innumerable attempts were made with all sorts of rigid and flexible instruments; but all in vain. The stricture was in the usual situation, anterior to the bulb. The patient came to Edinburgh; and, at the very first attempt, Mr. Syme passed a metallic bougie. At the end of three weeks, he could introduce a No. 10 instrument. The patient then went home, with instructions to have the instrument passed regularly. Twelve months afterwards, he again applied, complaining that the stricture was as troublesome as ever. Mr. Syme passed small bougies on two different occasions; but as severe rigors were produced, and the symptoms derived no alleviation, he performed the operation. Nothing occurred to impede recovery, and at the end of three weeks the patient returned to London, being able to make water with a degree of freedom he had never known. Wishing to know the present state of this gentleman, Mr. Syme had written to Mr. Henry Thompson, and had been informed by him that the patient had had no return of his old urinary symptoms.

Six other cases were related by Mr. Syme, which, however, we are from want of space compelled to omit.

The cases were selected from Mr. Syme's private practice, as permitting more easy and satisfactory reference. Hospital patients were often lost sight of when they left the hospital. He presumed not to throw blame on his brethren for the employment of other means; but these means were not always sufficient. The operation might be performed with safety; and he ventured to hope that the Society would give him the credit of good intention in bringing the matter under its notice. (Applause.)

Mr. WADE said, that it was well known that surgeons had, previously to Mr. Syme, directed their minds to the performance of the perineal section in intractable cases in which no instrument could be passed; though they had never thought of performing it to the extent recommended by him. There would be differences as to the best mode of managing the more intractable strictures. It probably mattered little to the patient what means were adopted, so that the object was gained without danger; but where there was danger in any proceeding, it was the duty of the surgeon first to employ every other means. The operation was not new; for Sir B. Brodie, in the edition of his work on *Diseases of the Urinary Organs*, published in 1841, in speaking of the difficulty of dilating urethral obstruction, had stated that it would sometimes be necessary to introduce a small grooved staff into the bladder, and divide the cicatrix by an incision through the perineum. Afterwards, a gum catheter must be retained for some time. He limited the operation, however, to cases arising from laceration of the urethra.

It was very desirable to ascertain, first, the degree of freedom from danger of this operation; second, the probability of permanent relief which it afforded. In Mr. Syme's hands, the operation appeared to have been remarkably successful; but the results had been so very different in the hands of other surgeons, especially in London, that the subject required a very searching investigation. Perhaps it might all be explained by the more bracing air of Edinburgh. Instead of being a simple means of cure, as it had been represented to be, and no doubt was in the hands of Mr. Syme, it had proved in London nearly, if not quite, as fatal as the operation of lithotomy. The causes of death had been phlebitis and purulent infection; and sometimes alarming hemorrhage had occurred. Urinary extravasation and abscesses had also been produced. These had occurred too often to be, as had been alleged, the result of accident, and not chargeable to the operation. The patients on whom the operations had been performed had long suffered from intractable strictures; their health was broken; and the parts through which the incision was made had been in a state of long-continued disease; these circumstances, and the condition of hospital patients, might account for the more unfavourable results.

The ultimate effects had certainly not been so satisfactory in London as in Mr. Syme's cases. In the first patient on whom Mr. Fergusson operated by Mr. Syme's method, the stricture returned with nearly its original severity. Not only in London, but in Edinburgh, had there been fatal results; as the case of Dr. Mackenzie in the latter city. In Mr. Miller's case, which was

operated on by Mr. Syme, the patient certainly had a narrow escape with his life. He suffered from abscesses a long time, and was in a very precarious state. Many cases, of the nature of those operated on by Mr. Syme, would be equally restored by a careful use of *potassa fusa*. With regard to ultimate success, some strictures would recontract, notwithstanding whatever means were employed; and it was not unlikely that contraction would recur in some of Mr. Syme's cases, in two, three, or four years. Sir B. Brodie had stated that, after the performance of this operation for stricture from lacerated urethra, the patient must continue to use a bougie, and must only expect to be able to pass urine by the introduction of a moderate-sized instrument.

Mr. Syme had said that all strictures were tractable in his hands. Mr. Wade would ask how Mr. Syme knows that, in the cases in which he used a small director, the instrument really passed along the natural passage into the bladder? In some cases, the urethra was not only highly contracted, but also almost distorted; and it was very difficult to guide an instrument through such a labyrinth. In cases of entire obliteration of the urethra, with fistulous passage of urine behind the stricture, would Mr. Syme endeavour to force a passage through the obstruction, or have recourse to the old operation for perineal section?

Mr. SOLLY said, that the paper read had appeared to prove the operation to be less dangerous than surgeons were in the habit of considering; but the operation was probably attended with greater danger than Mr. Syme's cases would lead us to suppose. It would be interesting to have the results of Mr. Syme's hospital practice, and to know in what cases he considered the operation necessary. He (Mr. Solly) believed that, as a rule, the bougie alone was sufficient, if patience were exercised. By beginning with a small catgut bougie, and gradually increasing the size, there was scarcely any stricture which might not be overcome. The plan of Mr. Wakley, of passing a small instrument through a larger one, was worthy of attention. Mr. Solly had employed it with advantage. As far as his experience went, when once an instrument could be introduced, division was unnecessary. There were, no doubt, cases of irritable stricture, in which the perineal operation might be necessary; and in those cases, of the existence of which every London surgeon must be aware, in which the stricture was absolutely impermeable, the operation would be both necessary and advantageous. At the same time, other operations had been performed, as puncturing the urethra posterior to the stricture. He feared that the junior members of the profession would think the operation universally successful, and have recourse to it on insufficient grounds.

Mr. COULSON hoped that we should be able to determine to what class of cases Mr. Syme's operation was proper. The external division of stricture had been recommended in 1811, by Mr. Chevallier; but he confined this practice to cases complicated with perineal fistula, chiefly to those produced by external violence. In 1822, Mr. Arnott read a paper before the Society, advocating the division of stricture from without; he recommended it, not as the means of removing retention of urine, but of curing stricture before it became unmanageable; but only when no reasonable hope of cure from caustic could be expected. In the following year, the late Mr. Shaw recommended that the operation should be had recourse to before the tissues had become so indurated as to render the operation almost useless. It was undeniable that certain forms of stricture resisted all ordinary modes of treatment. Were these to be abandoned to their fate, or were there effectual means of relief? He would not hesitate to have recourse to the plan of Mr. Syme in such instances.

There were three classes of cases in which Mr. Syme's operation was applicable. The first class consisted of those in which the urethra was all but obliterated by chronic inflammation of the mucous and submucous tissues. In the second class, not only was the urethra involved, but the submucous and spongy tissues were converted into a hard fibrous mass. These could not be cured by ordinary means. The third class of cases consisted of those in which there was fibro-elastic tissue, more like India-rubber, where the stricture easily yielded, but immediately returned. Temporary relief might be obtained, but not per-

manent cure. Attempts at dilatation were followed by severe constitutional irritation, very often by retention of urine.

Much had been said about the severity of the operation. Mr. Coulson had performed it as often as any other surgeon in London. One of his earliest cases had been fatal, from purulent infection; another had nearly died from hemorrhage. Hemorrhage he believed to be the only danger to which the operation was exposed; and, if carefully dealt with, this need not be feared. There might be some little difficulty in introducing the catheter after the operation into the posterior portion of the urethra. To obviate this, he had introduced the director along a small grooved tube, before withdrawing it.

Mr. T. WAKLEY, as a visitor for the evening, was anxious to make a few remarks. They had heard of a family of Blanques treated by Messrs. Blaque, eminent London surgeons. Now, as the results of the operation had been so different in London and in Edinburgh, he thought that a searching inquiry was called for into the circumstances of the cases, and that, to enable this to be accomplished, Mr. Syme ought to have stated the names of some of his patients, and of all the surgeons to whom he had referred. (Order, order.)

The President stated that the means had been furnished; but he had not judged it proper to allow the usual practice to be departed from by giving names publicly in the Society. Surgeons referred to by name in that way in their absence might with justice complain. It would be unusual and improper.

Mr. P. HEWETT said, that such a course as that proposed by Mr. Wakley never had been allowed in that Society. (Hear.)

Mr. T. WAKLEY—I will, then, ask Mr. Syme if he sent a challenge to the London surgeons. (Order, order.)

The President having again interposed, Mr. Wakley sat down, after remarking that he saw clearly that he was not likely to get a fair hearing.

Mr. HENRY SMITH had seen five cases of perineal section, in which the operation had been skilfully performed. One of them was the case referred to by Mr. Coulson, in which the patient nearly died of hemorrhage. With reference to contraction of the urethra after the operation, he (Mr. Smith) had last week seen a naval officer, on whom he had assisted in performing the perineal section in November, 1848. No bad symptoms followed, and the patient went to sea; and when again seen by Mr. Smith, in September, 1851, he stated that "he was nearly as bad as when the operation was performed. He had passed an instrument for a year, remaining perfectly well; but had afterwards neglected it, and the stricture had returned. Only a No. 3 bougie could be passed. Last week, only a No. 4 instrument would enter, and there was much difficulty in passing urine. He had seen two fatal cases.

Mr. GAY thought that the discrepancy between the results of Mr. Syme's operations and those of English surgeons might be accounted for by considering the different conditions of the patients. Mr. Syme's patients were in a better class of society, and more able to bear operation than those of English surgeons, who had been mostly hospital patients, in whom hemorrhage, inflammation, and all the mishaps of operation were more likely to take place. A more accurate judgment of the value of the operation would be formed from an account of Mr. Syme's hospital cases. It was not necessary that an operation should be always successful to render it a good one, and the occasional fatal results should not lead us to reject the operation in suitable cases. He would also ask in what cases Mr. Syme would *not* perform the operation, as well as those in which he would do so. Mr. Syme had referred to a case which had been under his (Mr. Gay's) care. The operation had in that case been eminently successful; and he thought it his duty to bear this testimony. He trusted that in future all acrimony would be banished from discussions of this subject.

Mr. SYME begged to express his grateful sense of the kindness with which his communication had been received, and also the extreme satisfaction he had felt from the tone and temper in which the subject had been discussed. It was peculiarly gratifying to him that the gentlemen who had devoted so much attention to the treatment of urethral diseases, as Mr. Coulson and Mr. Gay, should express sentiments so favourable to his proposal. He certainly participated in

the wish of the latter gentleman, that for the future the treatment of stricture by external incision should be discussed solely with reference to its own merits, and entirely free from personal considerations. For his own part, he had always been desirous to avoid saying anything personally offensive, and he was not aware of having ever done so. But if a single word or expression could be pointed out to him as admitting of such a construction, he would be most willing, and, indeed, anxious, to withdraw it. He hoped the Society would no longer regard the operation he had proposed as a formidable gash of the perineum, rivalling the wound of lithotomy, and exposing the patient to danger from hemorrhage as well as extravasation; but, on the contrary, clearly understand that it was an incision always anterior to the bulb, and, therefore, implicating a very inconsiderable thickness of parts, which might be cut with perfect safety. The unfavourable results of the operation in London were rather a delicate subject for him to enter upon, as he could not avoid attributing them to a want of due attention to the points which he had endeavoured to inculcate for safety and success. If the contraction were not fairly divided, there would be risk of extravasation, even with the protection of a catheter; and if the knife were allowed to glide past the conductor, it might readily cut the artery of the bulb; in which case plugging the wound would become requisite, with a great risk of extravasation. In short, he believed that the operation, if correctly performed, was perfectly safe, but, through a very slight deviation, might place the patient in the greatest danger. But if he had been correctly informed, that, in one of the London hospitals, a small silver catheter had been used as a guide, instead of a grooved director, he could not be surprised at the results not being satisfactory.

As to the case operated upon by himself in Edinburgh, and published by Professor Miller as an escape from extreme danger, he believed that the nervous symptoms described in his paper had imposed upon Mr. Miller; who, so far as he knew, had had no farther experience of the practice than this single instance which he had witnessed as the family attendant. He did not believe that there had been the slightest ground for serious apprehensions in this case; and as the patient, after being for a year under this treatment by Mr. Liston without relief, had been restored to perfect health by the operation, he thought that, instead of being quoted as an objection to its practice, it should rather be regarded as a very favourable example of success. With regard to the results of his hospital experience, he could assure the Society that they had been in no wise inferior to those he had preferred relating from private practice, on account of the greater facility of reference. He could also assure the gentleman who put the question as to the proportion of cases treated in his practice by dilatation and incision, that the latter bear a very small ratio to the former, in confirmation of which fact he might appeal to one of his colleagues in the Royal Infirmary, Dr. Mackenzie, who was present. As to the treatment of obliterated urethra, when this canal was truly closed through part of its extent, the operation for stricture was not applicable; all that he contended for being, that, where the water got out, a bougie might be got in. The only cases of stricture which he should think beyond the reach of benefit from this operation were those where organic disease existed in some other part of the urinary organs. It was well known that the presence of a stone in the bladder prevented the successful treatment of stricture; and it was, therefore, reasonable to expect that chronic irritation in the kidneys, or elsewhere, might produce a similar effect. In conclusion, he begged to express his hope that the unmeaning title of "Perineal Section," which had originated with the opponents of the operation, would be banished from surgery. He had no objection to the terms "urethrotomy" or "operation by external incision."—*Association Medical Journal*, April 29, 1853.

As connected with this subject we give the following letter from Mr. Miller to the editor of the *Lancet*:—

In your report of the discussion at the Royal Medical and Chirurgical Society, on the 26th ult., in the last number of the *Lancet*, the following passage occurs:—

Mr. Syme stated: "As to the case operated upon by himself in Edinburgh,

and published by Professor Miller as an escape from extreme danger, he believed that the nervous symptoms described in his paper had imposed upon Mr. Miller, who, so far as he knew, had had no farther experience of the practice than this single instance which he had witnessed as the family attendant. He did not believe that there had been the slightest ground for serious apprehensions in this case; and as the patient, after being for a year under this treatment by Mr. Liston without relief, had been restored to perfect health by the operation, he thought that, instead of being quoted as an objection to its practice, it should rather be regarded as a very favourable example of success."

In reference to this passage, permit me to observe:—

1. I am well satisfied that I was not "imposed upon" by "the nervous symptoms." They ("a curious train, consisting of rigors, bilious vomiting, suppression of urine, and delirium") certainly did occur; and that they did not cause unnecessary or unfounded alarm was amply shown by their having been followed by perineal abscess which required incision, by pelvic abscess which was opened and discharged very copiously from the rectum, and by a painful as well as protracted and critical recovery.

2. I was not a mere "witness," as the family attendant." The patient had been under the late Mr. Liston, and afterwards under my care. Extreme irritability of the parts prevented all systematic attempts at cure. At my request he came to Edinburgh, with a view to consider the propriety of his submitting to the treatment by incision, then coming into use. On his arrival, Mr. Syme was, at my suggestion, called into consultation along with me; and the operation having been determined on, it fell to be performed by Mr. Syme, as the senior surgeon, and the author of the mode of treatment. The patient was attended by me throughout his whole illness.

3. My personal experience of this operation is limited, simply because I have not found occasion, in all the cases of stricture recently under my care, to adopt any other treatment than that by the bougie. In certain extreme cases I should not hesitate to resort to the use of the knife; but such cases have not occurred to me.

4. I am sorry to say that the case in question cannot be "regarded as a very favourable example of success." The urethra has now contracted to a considerably smaller caliber than that which was gained by the operation; the bougie is not passed without difficulty and suffering; and it will require much care to prevent decided relapse of the disease.

I am, &c.,

JAMES MILLER.

EDINBURGH, May 9, 1853.

35. *Dislocation of the Metatarsus*.—Mr. J. TURNELL communicated to the Surgical Society of Ireland (Feb. 12, 1853) the following case of luxation of the metatarsal bones of the foot downwards and backwards, the result of external violence. The case we believe unique:—

"T. D., æt. 26, a middle-sized, well-made man, was returning off duty to Portobello Barracks, Nov. 30, 1851. He was walking his horse near the side of the canal, when suddenly, the road being very slippery from frost, the animal came down upon his off side, falling with his whole weight upon the patient's right leg and foot, crushing it against the ground. The horse rose upon his legs, the patient remaining in the saddle, but from the agony he was suffering, having no power over the animal, who reined back into the canal, his hind legs dropping in off the bank. In the struggle which ensued, the patient became disengaged from the saddle, and was left floundering in the water, the horse making his own way up, and the patient being dragged out. From the spot where this occurrence took place to the hospital to which he was conveyed, is but a short distance, and he was seen by Dr. Dolmage in a very few minutes, and before any considerable degree of swelling had taken place. The foot was curved inwards and bent, a large bony projection rising on the tarsus, with a sharp edge anteriorly, overhanging the metatarsal bone of the second toe. In the sole of the foot, deep under the plantar muscles, a hard bony projection also could be felt.

"Reduction was attempted by placing the patient on his back, fixing the pelvis,

and flexing the leg upon the thigh. Extension by pullies attached to the phalanges of the great and adjoining toes was then made, and persevered in for a considerable time, during which every possible movement likely to favour restoration of the parts by flexion of the metatarsus upon the tarsus was resorted to, and leverage also made directly upon the dislocated extremity of the metatarsal bone of the great toe, where projecting in the sole by means of a ruler applied to it, and drawn upwards and forwards, whilst the clasped hands of a strong assistant placed upon the instep, held that part downwards and backwards. As great force as it was considered justifiable to employ, was expended in the effort at reduction, but not the slightest alteration in the position of the bones was effected. Considerable effusion and ecchymosis followed, the latter extending up almost to the knee. Leeches, fomentations, &c. &c. were prescribed, and the ordinary treatment for violent contusions had recourse to. Under this treatment swelling subsided, and on the 14th of February (ten weeks from the accident) the foot presented the appearances represented in the cast,¹ which was taken this day, and during which time the patient had been confined entirely to bed by suppurating bubo in the opposite groin.

"All swelling and thickening were now gone, the outline of the tendons and every portion of the extremity being most accurately defined. In its general aspect, the foot somewhat resembled a case of pes equinus, being considerably shortened and arched upon its inner border, the distal extremity of the metatarsal bone and first phalanx of the great toe being adducted, the last phalanx at the same time pointing somewhat outwards. The instep bore a natural appearance from the malleoli to the extremity of the internal cuneiform bone, which projected in a sharp point anteriorly, raising the integument which was stretched over it, white and glistening, like a tightly bent knuckle; and from the outer border of the cuneiform bone ran an evident ridge, marking the division between the tarsus and the metatarsus, and defining the line for Hey's amputation of the foot.

"In consequence of the bubo in the groin, the patient had made no effort to walk; but upon the few occasions on which he had tried to use the limb, supported by crutches, he had found a total inability to move otherwise than on the heel, in consequence of pain of a burning lancinating character being produced in the sole of the foot whenever he attempted to throw any weight upon the toes, and place the plantar structures on the stretch.

"I saw this man subsequently in June, when I obtained a second cast of the foot. It had now become more inverted, and the projection in the sole was less evident, having been rounded and partly removed by absorption. He walked freely with a stick, bearing his weight on the outer border of the foot, as in a case of talipes varus, but he could not move or make any effort when the foot was placed flat upon the ground, from the same burning sensation already alluded to, and which he described as resembling the feeling that might be imagined to result from attempting to walk in a very tight boot, with a marble under the sole of the foot.

"Mr. Adams said that the case adduced by Mr. Tufnell was unique, and that, as far as he knew, nothing *precisely* similar had been recorded. The three examples of displacement of the metatarsus reported by Dupuytren, and the two additional ones described by Dr. R. W. Smith, were all dislocations of the metatarsus upwards on the dorsum of the tarsus, which we know to be the reverse of what had occurred in Mr. Tufnell's case, just related. In this last case, the instep seemed preternaturally high, and the sole hollowed; whereas, in the five other examples of dislocation of the metatarsus upwards, the instep seemed low, and the sole of the foot, as Dr. Smith had shown, remarkably convex. There is one more point of difference, which perhaps ought here to be adverted to, namely, that Mr. Tufnell's case seemed to be a simple dislocation downwards of the metatarsus; whereas, in Dupuytren's and Smith's cases, the internal cuneiform bone retaining its connection with the bases of the metatarsal bone of the great toe, was dislocated upwards in company with the metatarsus. As to the surgical treatment of these injuries, if we permit ourselves to draw

¹ This cast is in the Museum of the Royal College of Surgeons, Ireland.

any inference from the few cases before us, we may conclude, from the result of Dupuytren's first case, that dislocation of the metatarsus upwards may be easily reduced, if the accident be seen early, and properly treated; but that if the case be neglected for three weeks, as was the case in the second example of this accident met with by Dupuytren, that then the reduction of the dislocation will be found difficult or impracticable. As to the means which were used or omitted in Dr. R. W. Smith's cases, I believe nothing is accurately known. The value of these two facts consists in the accurate *post-mortem* examination which was instituted. As to the surgical treatment in the case of dislocation of the metatarsus downwards, we know of but one (Mr. Tufnell's case); and although the most energetic efforts were made to replace the bones a few moments after the accident had occurred, still these means failed; however, it is reasonable to hope that the patient will in time (as occurred in Dupuytren's case) regain fair use of his foot in progression. There is one practical point we should attend to, should we reduce the dislocation of the metatarsus, whether the displacement be upwards towards the dorsum of the foot, or downwards (as in Mr. Tufnell's case), namely, that there is great mobility of the bones of the foot to be expected after the reduction of the dislocation. Dupuytren found that in the case of the patient in whom he was happy enough to reduce the dislocation, that the foot was found immediately afterwards very movable in the metatarsal line of junction of the bones. He therefore found it necessary to enjoin absolute repose, and to apply bandages, but ultimately recovery was complete.

"Mr. Tufnell—In the course of six months after the injury, he gradually brought himself to walk on the outer border of the foot, and in June, 1852, when I last saw him, he could walk pretty well with the aid of a stick."—*Dublin Med. Press*, March 9, 1853.

36. *Reduction of Old Luxation of Lower Jaw, by Means of M. Stromeyer's Apparatus.* By M. Bouisson, Prof. Clin. Surg. to Fac. Med. of Montpellier.—Examples of reduction of old luxations of the lower jaw are still by no means common; so also are cases in which Stromeyer's apparatus has been used. Adding a new and certain mode to those which science already possesses, will encourage practitioners not prematurely to renounce their attempts to reduce old luxations of the lower jaw. A new and progressive view of the mechanism of old luxations has been taken, and the assumed difficulty in reducing these luxations depends more upon the imperfection of the instruments used, than upon the obstinacy of the luxations themselves. Nowadays, the application of the anæsthetic agent permits us to go farther than we otherwise would, and multiplies our chances of success, by allowing us to act on the luxated bone in the suitable direction, and with proper instruments.

Case.—Françoise Arnaud, from St. Lamert (Gard.); entered the Hospital of St. Elai, in Montpellier, on the 16th of February, 1852. She is aged 31, has always enjoyed good health, and is of lymphatic temperament. When interrogated as to her previous life, she mentioned a circumstance which appeared to have made but slight impression on her, but which proved that she was disposed to luxations of the lower jaw. She stated that about five years before, after an intense and prolonged fit of yawning, she was seized with sudden immobility of the lower jaw, accompanied by great distension of the mouth. Ignorant of what ailed her, she endeavoured of herself to restore parts to their natural position; she pressed her chin firmly against her breast, and suddenly applying both hands with all her strength, succeeded in causing the appearances mentioned to disappear. This first luxation, for which the patient had not consulted a surgeon, was not followed by any disagreeable consequence.

On the 20th of December, Françoise Arnaud, when endeavouring to take an unusually large bite of a pear, which she was eating, found her jaws widely distended, and as firmly fixed and immovable as they had been on the former occasion; but this time these symptoms were accompanied by severe pain in the temporo-maxillary articulation, extending towards the temple and orbit. The patient, who lived in a village in the department of Vaucluse, sent for the nearest medical man. As speaking was accompanied by the greatest suffering and difficulty, she neglected to inform this practitioner concerning her former accident.

On this account, perhaps, mistaking the nature of the case, and believing it to be a nervous affection, he made no attempt at reduction; he confined himself to directing the application of ten leeches behind each ear and to the fossa parotidea; a warm poultice to be afterwards applied. Of course, no alleviation of the symptoms followed this treatment, which was blindly persevered in. About three weeks after the accident, the patient, disappointed at finding herself still in the same state, consulted another medical man, who unfortunately entered into the views of his *confrère*, and thought fit to continue the application of leeches, which had been discontinued for some time. Perhaps the inflammatory symptoms, or the severe pain, accompanied by swelling of the surrounding parts, suggested the idea of this antiphlogistic treatment, which was actively persevered in; but the patient's own assertions are not favourable to this supposition. The nature of the lesion was completely misunderstood, not the least attempt having been made at reduction.

On the 18th of February, Françoise Arnaud decided on going to Avignon for the purpose of seeking relief from the misery which she endured. The surgeon consulted, at once perceived the case was one of complete luxation of the inferior maxilla, and immediately attempted the reduction of the bone. The manœuvres attempted not being sufficient to disengage the condyles, the patient was bled, and belladonna friction directed over the region of the masseters, for the purpose of overcoming muscular resistance. The patient returned to her village, when these frictions were continued for some days. The reduction was again attempted, and, for the purpose of acting more strongly on the jaw, the handle of a knife was introduced into the mouth between the dental arches, to serve as a lever to depress the bone. The loss of three molar teeth of the upper jaw, and one of the lower, on the right side, followed these attempts; at the same time, not the least advance was made towards the reduction.

Françoise Arnaud again returned to Avignon, to seek the assistance of M. Pamard. My *confrère* and friend attempted the reduction with his usual ability, but his efforts were unavailing, for he found it impossible to dislocate the maxilla from its new position. M. Pamard, who had not at his disposal M. Stromeyer's apparatus, thinking that the patient would find every applicable resource at Montpellier, sent her to me. She presented the most evident symptoms of luxation of both condyles of the jaw. The mouth was open; in front, the jaws were two-thirds of an inch apart; this distance diminished towards the molar teeth, which were almost in contact; the lower projected also two-thirds of an inch beyond the upper. The teeth did not correspond, the lips could not be approximated, and very considerable difficulty attended any attempt at articulation. The patient could take none but liquid food. In front of the ear, on a level with the condyles of the inferior maxilla, there was a depression; the temporal muscles were tense, and formed a well-marked projection; the coronoid processes could be felt distinctly projecting forwards, by introducing the fingers into the mouth. The general state of the patient was favourable; everything considered, she had suffered but little. She felt slight pain on a level with the luxated articulating surface, and in the surrounding textures. No doubt could exist of the nature of the lesion, so, on the day of the patient's admission into hospital, I attempted the reduction. My attempts were made in the usual manner, and in the way most likely to disengage the coronoid processes from their relations to the malar bones. For the better carrying out of my intentions, the patient was seated on a low stool; this was done that the more efficient pressure might be kept up on both sides of the jaw. The only effects of these attempts were, tiring myself, and distressing the patient. Therefore I resolved, on the following day, to apply Stromeyer's apparatus, as I considered it the only means by which the organized adhesions of the condyles and the muscular resistance could be overcome. This instrument, made of steel, is composed of two blades, terminating at their anterior or buccal extremities by a plate, to which is given the parabolical curve of the dental arches; they should be well padded with chamois leather. These blades articulated in their middle without crossing. This articulation presents a *point d'appui*, by which the surgeon acts (as with a lever of the first order) upon the opposite extremities of the blades, which blades are kept separated by a spring. Pressure, by approximating the anterior extremi-

ties of the instrument, necessarily separates the posterior ones, and by that means allows us to make use of this simple mechanism so as to act on the dental arches, between which the blades, when closed, are carried. By this contrivance, the depression of the lower jaw is effected.

To act more gradually and forcibly, pressure can be used by means of a screw and nut; the end of the screw fits into a depression on the lower blade, and is retained there by a screw; the other end goes through a hole in the upper blade, and the nut, screwed down from above, presses on it, and so closes them. The instrument should be introduced into the mouth closed. When it is properly adjusted, the nut is screwed down as far as it is desirable to separate the parabolic plates; and after the reduction, as it would be painful to withdraw the instrument open, the screw which acted on the lower extremity of the pin should be loosened; the spring then acts, and quickly brings the posterior extremities of the instrument to their original distance of separation, and of course closes the instrument at the other end, so that its removal from the mouth is easy.

I borrowed the instrument described above from the Museum of the Faculty, and on the 18th of February, at the morning visit, I applied it to the patient. I immediately entertained a high opinion of its efficacy, for I could separate the molar teeth, which I was unable to do with my thumbs; but this action was accompanied with very great pain, and by violent contraction of the temporal and masseter muscles. I then believed it prudent to suspend the operation until the patient was under the influence of chloroform, when I could easily overcome the muscular resistance, and when the patient would be spared needless suffering. The operation was deferred till the end of the visit.

Operation.—Françoise Arnaud was brought into the operating theatre; I placed her in the horizontal position, and put her under the influence of chloroform. At the end of three minutes, insensibility and muscular relaxation were apparent. I then introduced Stromeyer's apparatus into her mouth, and having forced the anterior blades, approximated, between the molar teeth, I separated them by pressure. The inferior maxilla sunk, and yielded little by little; when I considered this separation sufficient, I intrusted the instrument to an assistant, and having made pressure backwards and downwards for a little time, both on the body and on the blades of the instrument, the bone sunk into its normal position. Immediately the instrument was removed from the mouth, and it was at once perceptible by the correspondence and approximation of the dental arches, that the reduction was then regular and complete; the mouth was shut, and the lips met naturally. This result was obtained without the least pain, and unknown to the patient, who awoke delighted and astonished at finding herself thus instantaneously cured.

The dressing consisted of a bandage, and compresses dipped in cold water, applied to the temporo-maxillary region. For a day or two there was slight pain in the part, but neither inflammation nor swelling supervened. The patient was put on liquid diet, and recommended not to open her mouth widely. On the third day the pain was completely gone; the motions of the jaw were perfectly free, and regular nourishment was permitted. The patient remained in hospital for a few days, that there might be no doubt as to the permanency of her cure.

On the 26th, the patient possessed complete power over the jaw, and could masticate solid food. She then left the hospital.

I shall add a few observations on this authentic case. Books on surgery contain but three or four cases of reduction of old luxations of the lower jaw. The greater number of surgeons direct that, if the luxation has existed more than one month, no attempt should be made at reduction. In a case of the same kind, when M. Stromeyer for the first time used his parabolic plates, the accident was not of a month's standing. In this second case, which I furnish, more than twice the specified time had elapsed between the time of the accident and the reduction; still, this instrument proved as efficacious and prompt as in the first case. These results of our observation, facilitated by the intervention of chloroform, tend to increase the extent of surgical mechanism applicable to old luxations, especially the one which now occupies us. By these considerations, I conceive the following conclusions are justifiable: That reduction of luxations

of the lower jaw are not only practicable, but easy, two months after the occurrence of the accident; that the most approved mode of operating is with the lever and parabolic plates; that the application of anæsthetic agents increases our chance of success in the operation. S. J.—*Dublin Med. Press*, March 9, 1853.

37. *Congenital Displacement of Head of Femur*.—Dr. MERCER ADAM exhibited to the Edinburgh Physiological Society, a dissection he had made, of a fœtus having congenital displacement of the head of the femur (*luxation originelle* of Breschet, etc.) on both sides. Opportunities of examining this malformation in fœtal life, as was long ago observed by Dupuytren, were very rare; hence the present case was interesting. The head of the femur was displaced from a well-formed cotyloid cavity, and lay on the dorsum of the ilium, where it had formed for itself a new cartilaginous acetabulum. The muscles of the thigh and gluteal region were very much atrophied and contracted. Owing to the contraction of the rectus femoris, the patella and head of the tibia were drawn up over the condyles of the femur, and the knee-joint in consequence could not be flexed. The axis of the neck of the femur was abnormal, being placed nearly horizontally in relation to the shaft of the bone, instead of its natural oblique direction. The ligamentum teres was elongated, thicker, and stronger, than is usual in fœtal life. This seemed to confirm the views entertained of its function as a purely suspensory ligament, and evidenced in a remarkable manner the provision made by nature to counterbalance the malformation; for, had this child lived, the whole weight of the body must necessarily have been supported by this ligament, which was formed of unusual strength for this end. From the immobility of the knee-joint the fœtus had been unable to assume its normal ovoid form while *in utero*, and accordingly a false joint had been formed in the lumbar region of the vertebral column, to enable the child to adapt itself to the cavity of the uterus. Mr. Adam made a few remarks on the probable etiology of such cases; and considered that in the present case the displacement had been caused by the abnormal retraction exercised on the head of the bone by the contracted condition of the muscles affixed to it. The position of the fœtus in utero, as it lies with the legs flexed on the abdomen, was the position of all others which would predispose the head of the femur to slip out of the acetabulum, and to mount upwards and backwards, as in this case, on the dorsum of the ilium.—*Monthly Journ. of Med. Sciences*, May, 1853.

38. *Treatment of Dislocation Complicated with Fracture*.—M. RICHER, at a meeting of the Surgical Society of Paris, in 1852, reported in one of the numbers of the *Union Médicale*, read a memoir on the possibility of reducing dislocations of the humerus and femur, when complicated with fracture of the bone in the vicinity of the joint. He gave as his opinion that, by placing the patient under the influence of chloroform, and employing coaptation, without extension, the dislocation might be reduced before the fracture, in opposition to the doctrines of Boyer and Dupuytren. M. Richet employed this method successfully in a case of dislocation of the humerus with fracture of the surgical neck. He also demonstrated the practicability of the proceeding by experiments on the dead body. He proposed to apply the plan of coaptation to the treatment of dislocation in general, whether complicated with fracture or not.

In reporting on the essay of M. Richet, M. Gosselin stated the principal merit of the author to consist in having brought forward a plan of treatment which had indeed been employed by other individuals, but which was not generally known, from the cases being published in periodicals and theses, and hence inaccessible to many members of the profession. He objected to the use of chloroform so frequently as recommended by M. Richet; and believed that reduction by coaptation could often be accomplished during the state of prostration succeeding the injury. He thus summed up the proper treatment of fracture complicated with dislocation. "As soon as the lesion is discovered, no matter at what time, reduction by coaptation should be attempted, chloroform being given, if not contraindicated; and the operation should be repeated several times, if it does not at once succeed. If reduction is not obtained, and

the upper fragment of the bone is large enough, extension should be combined with coaptation; the application of the starched bandage (*appareil inamovible*) is useful. If we do not then succeed, we must wait until the fracture is united, and then attempt to reduce the dislocation; and, if we then fail, we must favour by passive motion the formation of a false joint."

In the *Revue Medico-Chirurgicale* for February, 1853, M. MALGAIGNE gives a summary of the present state of knowledge on this subject; and adds the results of his own experience.

In seven years, he has had under his care, in the hospital of St. Louis, thirteen cases of dislocation complicated with fracture, viz., one case of dislocation of the fourth cervical vertebra with fracture of the posterior arch; one of dislocation of the sacrum with fracture of one ilium; one of dislocation of an arm with fracture of a leg; one of dislocation backwards of the elbow with fracture of the forearm; one of dislocation backwards of the elbow with fracture of the radius; one of dislocation forwards of the radius, with fracture of the forearm; one of dislocation with fracture of the radius; three of dislocation of the lower end of the ulna with fracture of the radius; one of dislocation of the knee with fracture of the leg; one of dislocation of both knees with fracture of the left leg and arm; and one of dislocation of the tibio-tarsal joint with fracture of the tarsal bones.

Among these cases, those are the most frequent in which the fracture affects the luxated bone; this is most commonly found in the arm, then in the forearm, thigh, and leg.

From the attention of the surgeon being directed to the fracture, often to the exclusion of the dislocation; from the swelling being more rapid and considerable than in simple cases; and from the pain of the dislocation being masked by that of the fracture, the luxation is often not detected by the surgeon; and M. Malgaigne acknowledges that he has erred in this way in a case of dislocated humerus, and in one of dislocation backwards of the head of the radius.

When dislocation with fracture is recognized, how is it to be treated? Pasicrates, who wrote about half a century before the Christian era, and Oribasius, advise that the dislocation should be first reduced; and then the fracture. Aristion preferred extension, so as to act on both at the same time. Celsus and Galen say nothing of the subject; and Paulus Egineta and Haly Abbas give very meagre instructions. Guy, of Chauliac, writes: "If dislocation is complicated with fracture, let the dislocation be first reduced, and then the fracture, if possible. But, if otherwise, let the fracture be reduced; and when the callus is firm, the dislocation may be treated." J. L. Petit quotes this precept, and adds that reduction of the dislocation is impossible when the fracture is near the joint. To this M. Malgaigne objects, first, that it is not the distance of the fracture which forms the great obstacle; secondly, that it is rarely that reduction must be effected by extension. Boyer properly admits that the luxations of the ginglymoid joints can be reduced without extension; but, with regard to the ball and socket joints, he says that dislocations cannot be reduced while fracture exists, and that, when the callus is solidified, the length of time opposes an obstacle. Sir A. Cooper advises immediate reduction of the dislocation in all cases, from fear of reproducing the fracture, if extension is employed subsequently.

In recent cases of dislocation, M. Malgaigne observes that mild means succeed best; such as pressure, impulsion, and rotation; and that the ball and socket joints are as amenable to this treatment as the others.

Delamotte, in his *Traité de Chirurgie*, relates a case of dislocation of the humerus, complicated with fracture of the bone near the junction of the upper with the middle third, and with fracture of the clavicle. The dislocation was reduced by an assistant pressing firmly on the acromion, while Delamotte "drew the head of the bone downwards, at the same time pressing it upwards;" in fact, by a movement of rotation. Laroche (*Thèse Inaugurale*, Strasbourg, 1803) had a case of dislocation of the humerus under the clavicle, the bone being also broken at the lower third. Having had the acromion fixed, he pushed back the head of the humerus into the glenoid cavity. James Gordon (*Trans.*

of the *Medico-Chir. Society of Edinburgh*, 1824) reduced in a similar manner a dislocation of the humerus, complicated with comminuted fracture of the bone. Houghton (*Lancet*, 1845) reduced on the tenth day a dislocation complicated with fracture four inches below the acromion.

Dupuytren (*Leçons Orales*, tome i. p. 85) asserts that when luxation of the humerus is complicated with fracture of the surgical neck, art and nature can do almost nothing. But, in 1777, Bottenheit reduced two cases, in which the fracture was as close as possible to the joint; and more recently, M. Baroni (*Gazette des Hôpitaux*, 1841, p. 192) has obtained a similar result on the sixth day. More recently, M. Richet (*Union Médicale*, 1853, p. 499) has reduced a dislocation of the humerus complicated with fracture of the neck of the bone, by pressing with the thumb on the acromion, and pushing the head of the bone outward and upwards with the fingers.

Luxations of the femur may be reduced in the same way as those of the humerus. In 1836, M. Etève had a case of dislocation backwards of the left femur, with fracture of the bone at the middle third, a penetrating wound of the knee-joint, and a fracture of the fibula on the same side. The patient was held firmly by two assistants who placed their hands under the axillæ; two others held a towel surrounding the thigh, between the dislocation and the fracture; while three others held up the limb, so that the thigh was bent almost at a right angle with the pelvis. After making gradual extension, the surgeon pushed with all his strength the head of the femur into the acetabulum, and reduction was instantly accomplished (*Gazette Médicale*, 1838, p. 751). Some years before this, Bloxam had reduced, on the eighth day, a dislocation of the femur on the pubes, with fracture above the middle third of the bone, by flexing the limb on the pelvis, and pushing the head of the bone downwards and backwards.

Examples of reduction of dislocation of the ginglymoid joints are more rare. Pézerat (*Journal Complémentaire*, tome iv. p. 276), had a case of dislocation backwards of the radius and ulna, with fracture of both bones two inches above the styloid process. The dislocation was immediately reduced; but by what means is not stated. M. Malgaigne relates a case in which there was dislocation backwards at the elbow-joint, with fracture of both bones at their middle. M. Malgaigne chloroformed the patient, and readily pushed the bones into their place. The fracture was treated; and the patient nearly recovered the perfect use of the arm.

One case only of reduction of dislocation of the knee, with fracture, is known to M. Malgaigne. In 1850, a woman came under the care of M. Jules Guérin (*Arch. Gén. de Méd.* October, 1852, p. 152), with dislocation outwards of the left knee, and fracture of both bones of the leg at the middle. Slight extension was employed; and the luxation was reduced by rotating the leg from without inward.

Delamotte relates a case of dislocation of the foot with fracture of the leg three finger-breadths above the joint. He applied extension and counter-extension; and pushed back the dislocated bone with the palm of the hand. That the extension here, as in other cases, was not of much value, M. Malgaigne thinks proved by the fact, that Delamotte succeeded without it in reducing dislocation in an analogous case. M. Corbin, in 1843, communicated a similar case to the Academy of Medicine. Delamotte (*Chirurgie*, 1845) and M. Robert (*Journal de Chirurgie*, 1845) have reduced dislocations of the lower jaw, complicated with fracture.

In operating on these cases, M. Malgaigne recommends that chloroform should be used; that the fractured limb should be held by assistants; and that it should even be temporarily put up in an apparatus before the reduction of the dislocation is attempted. Gentle motion of the joint should be practised at an early period.

In dislocations of older standing, Boyer, Sir A. Cooper, and Dupuytren, discountenance attempts at reduction. In 1828, however, Warren reduced a dislocated humerus, where the bone had been fractured, at the end of seven weeks. In 1846, M. Malgaigne met with a case of fracture of the radius, with dislocation backwards of the elbow. He did not discover the latter accident until the

seventeenth day; and when he then tried to push the bones into place he failed. He therefore waited until the fracture was united; and, on the thirty-eighth day, reduced the dislocation by extension and sudden flexion.

He also relates a case of dislocation of the radius with fracture of the forearm. Reduction of the dislocation was attempted after the union of the fracture; it was unsuccessful, but the power of motion was improved.

M. Malgaigne concludes his essay by referring to cases in which a false socket has been formed; and in some of which, MM. Ribéri, Peyrani, and others, have successfully attempted, by perseverance in passive motion, to give to the limb a considerable power of movement.—*Association Medical Journal*, April 29, 1853.

39. *Fracture of the Femur in the last week of Gestation; favourable Parturition; rapid Union of Fragments.*—There is recorded in the *Lancet* (May 28, 1853), the case of a woman, 22 years of age, admitted into St. Bartholomew's Hospital, who in the ninth month of gestation accidentally slipped and fell, fracturing the lower third of her femur, at the same spot where it had been fractured nine years previously. Eighteen days after admission, she was delivered of a son without untoward symptoms. She suckled her infant; nevertheless, bony union was accomplished in about the usual time. On the twenty-third day after delivery, union was almost complete, and the patient was discharged, forty days after the accident and twenty-five after the birth of the child, with a firm limb.

40. *Excision of the Knee-Joint.*—On the 2d of April last, Mr. FERGUSSON excised the left knee-joint of a woman, 28 years of age, affected with disease of the joint, which had continued for several years, and had resisted the usual treatment. The diseased joint was larger than its fellow, and the patient suffered from pain in it, which was worse at night. Pressure on the patella produced a grating sound, and the slightest lateral motion could scarcely be borne, and distinct roughness was felt on attempting to bend the joint. There was little or no effusion in the joint. The patient's health was declining. The case terminated fatally on the sixteenth day.—*Lancet*, April 16, and May 7, 1853.

41. *On a Simple Method of ascertaining, without the Use of the Catheter, whether the Eustachian Tubes are pervious; with some Observations on the Treatment of Cases of Obstruction in these Tubes.* By JOSEPH TOYNEER, F.R.S.—The author points out the objections to the two ordinary modes of exploring the Eustachian tubes—viz., that the use of the catheter is liable to produce pain and discomfort; that without experience it is not easy to ascertain whether it be really in the tube; that the plan of attempting to distend the tympanum by a forcible expiration, while the mouth and nostrils are kept closed, is not always successful, from the fact that the young and nervous cannot be taught to perform the act; and that sometimes, when it is properly done, the guttural orifices of the tubes seem to be pressed together so as to preclude the air from entering. In a paper recently read before the Royal Society, the author endeavoured to show that the guttural orifice of each Eustachian tube is generally closed, and that the air in the tympanum is not continuous with that in the cavity of the fauces, except during the momentary act of deglutition. In proof of this, the following experiment was cited: If the mouth be shut, and the nostrils be held closed by the finger and thumb, and then the act of swallowing be performed, a sensation of fullness or pressure is experienced in each ear; and this sensation does not disappear upon the removal of the pressure from the nose, but it vanishes at once when the act of swallowing is again performed, while the mouth and nostrils are open. During the first act of swallowing, a small quantity of air was forced into the tympanic cavities through the Eustachian tubes, and it therein remained until the second act of swallowing again opened the tubes and permitted the air to escape. The muscles whereby the Eustachian tubes are opened are the tensor and levator palati, which it is well known take origins from the cartilaginous walls of the tubes. As, during the act of swallowing with closed mouth and nostrils, air is forced through the Eustachian tubes into the tympanic

cavities, it is evident that the permeability of these tubes can be ascertained by making the patient swallow some saliva while the mouth and nose are shut. Nor need the surgeon depend upon the statement of the patient respecting the sensation of distension felt in the ears; for by listening with the *otoscope*, should the Eustachian tubes be pervious, the air will be distinctly heard to enter the tympanic cavities, and produce a gentle crackling sound. The author next proceeds to consider the treatment of cases of obstruction of the Eustachian tubes, especially in reference to the use of the catheter. It having been ascertained that these tubes are obstructed, is it desirable to attempt to open them by means of the catheter? Believing that obstruction in the Eustachian tubes generally depends upon a thickened state of the mucous membrane covering the guttural orifice, and that this state is always associated with a thickened condition of the faucial mucous membrane and of the mucous membrane of the tympanum, the author suggests, especially to those inexperienced in the use of the catheter, not to attempt to pass this instrument—firstly, because, in such cases, the mucous membrane of the Eustachian tube is often so tumefied that no ordinary degree of pressure will force the air into the tympanum; and, secondly, because, should the surgeon succeed in transmitting a few air-bubbles, the relief obtained is only partial, and endures for a very brief period, since the mucous membrane remains as thick as before, and the ill effects of the obstruction soon recur, from the air in the tympanum becoming of a different density from that without. The *membrana tympani* becomes more or less fixed. The treatment recommended is such as shall tend to reduce the thickened mucous membrane of the guttural orifices of the Eustachian tubes to a healthy state, so that their muscles may be able to open them. For this purpose, besides the use of general remedies, the solid nitrate of silver, or a strong solution of hydrochloric acid, may be applied to the mucous membrane of the fauces and to the apertures of the tubes, and gentle counter-irritation is to be kept up over the region of the fauces. By these measures, as a general rule, the mucous membrane can be reduced to its natural state, and the tubes become again opened by their muscles. Should this not take place, the Eustachian catheter may now and then be introduced and air be gently blown through it. A modification in the shape of the Eustachian catheter is suggested—viz., that it should be oval instead of round, the advantages derived being that it not only can be passed through the nose with less discomfort to the patient, but its presence in the Eustachian tube is much less disagreeable from the absence of the convex surfaces which, in the rounded catheter, press against the nearly flat surfaces of the tube. In conclusion, the author expresses his concurrence in the opinion of Harvey and Kramer, that enlarged tonsils are never the cause of obstruction in the Eustachian tubes, and that any benefit that may have followed their extirpation has arisen from the loss of blood consequent upon the operation.—*Proceedings of the Royal Medical and Chirurgical Society*, from *Lancet*, March 22, 1853.

OPHTHALMOLOGY.

42. *Helmholtz's Speculum for Examining the Retina in the Living Eye*.—Dr. W. R. SANDERS has given a description (*Monthly Journ. Med. Science*, July, 1852) of a new speculum, devised by Prof. Helmholtz, by aid of which he says he has been enabled to examine the structures in the posterior chamber of the eye, hitherto beyond our reach, and which opens a new field of valuable practical applications in physiology and ophthalmic surgery.

The new eye-speculum consists essentially of two parts: 1st. Reflectors, to illuminate the retina; 2d. Lenses, to bring its structures within our focus of vision.

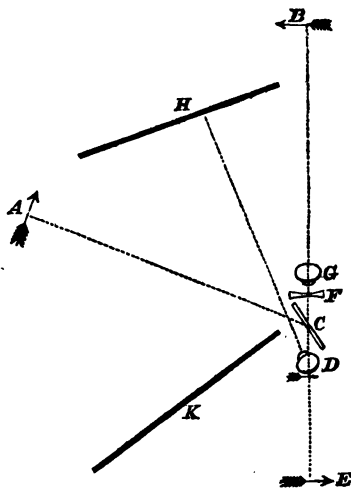
Illumination.—The possibility of seeing into the posterior chamber of a living eye depends on the fact that the rays of light which pass into the eye, and fall upon the retina, are not completely absorbed there; but a portion of light is reflected

from the retina, and passes out again through the pupil. According to the laws of optics, these reflected rays, in proceeding out of the eye, must pursue, in an opposite direction, exactly the same course which they took on entering it. Thus the rays from a luminous point fall diverging on the cornea, and are converged by the media of the eye to a focus on the retina; in return, the rays reflected from the retina pass diverging to the cornea, and, on leaving the eye, are converged to a focus at the luminous point from which they came. The same applies to a luminous body. The rays from a gas flame unite in a picture on the retina, from which the unabsorbed rays are reflected back to the gas flame, and concentrate there in an image of the picture on the retina; and the reflected image is placed on, and coincides in size and position with, the real gas flame. To see, therefore, into the posterior chamber of an eye, we must bring our vision in the straight line of the reflected rays. It is impossible, however, to do so directly, for we cannot interpose ourselves between the eye and the light without intercepting the latter. By approaching, indeed, as near as possible to this direct line, without being upon it, we may catch the irregular rays, and see the pupil of the observed eye illuminated, as Cumming¹ and Brücke's² observations have shown; but such methods are inconvenient, and the illumination obtained is insufficient.

By means of a plain transparent reflector, however, such as a piece of flat glass, we can place our vision in the direction in which the rays emerge from the observed eye. Thus let *A* (Fig. 1) be a flame, whose rays are caught at an angle on a glass plate *C*, the rays will be thrown along the line *CD* into the eye *D*, which will see an image of the flame at *B*, along the line *DB*; but the rays reflected from the retina passing out in the same line, *DC* will again meet the plate *C*; they will be in part turned towards *A*, but part also will traverse the glass plate *C*, and go to form a picture at *B* of the image on the retina; but an eye *G*, placed behind the glass plate and on the line *CB*, will meet these reflected rays, and will consequently see the posterior chamber of the eye *D* illuminated.

The experiment is thus performed: In a dark room, with a single flame at the side of the experimenters, and on a level with their eyes, the person whose eye is to be observed holds a piece of glass (a microscope glass slip), so as to catch the image of the flame on it; he then, by inclining the glass, brings the image of the flame opposite the pupil of the observer's eye; the latter will then see the pupil of the observed eye luminous, of a reddish-yellow bright colour, like what is called "cat's eye." A person may also see one of his own pupils luminous: standing before a looking-glass, and seeing the image of the flame in the reflector with his right eye, let him bring this image opposite the pupil of the left eye in the looking-glass; the left eye will then perceive the right pupil in the mirror luminous. The observer may also himself place the reflector when observing the eye of another person: by using a very small piece of glass, the reflection from this on a shaded countenance will indicate the direction of the light; and when it is thrown upon the centre of the eye, the observer looking through the glass will see the illumination of the pupil; and

Fig. 1.



¹ Cumming—Medico-Chirurgical Transactions of London, vol. xxix. p. 238.

² Brücke—Müller's Archiv. 1847, p. 225.

by turning the reflector in different directions, and allowing the observed eye to be moved, he may compare the amount of reflection from different parts of the retina.

To obtain the greatest possible amount of illumination, we may either employ a larger angle of reflection, or increase the number of glass reflectors. The most advantageous angles are given as 70° for one glass plate, for three glass plates 60° , for four glass plates 55° . Employing several glass plates is preferable to using a high angle; because the glass being less oblique is more easily seen through, the eyes are better shaded, and at 55° the polarized reflection from the cornea, which interferes with the observation, is nearly all stopped by the glass plate through which the other rays, depolarized on the retina, pass.

For these observations, a good oil-lamp or gas-lamp is best; sunlight, let in through a hole in a shutter, may also be used; the observed and observer's eyes should be carefully shaded, and, to prevent mistakes, the eyes not used in the experiment should be closed. This method of illumination is applicable to other cavities with narrow openings, as the ear, the nose, &c.

Lenses to bring the Reflected Rays to a convenient Focus.—The luminous rays emerging from the eye *D* (Fig. 1), and passing through the glass *C*, unite at *B* to form an image of the picture on the retina. But at the distance at which *B* is from the observed eye *D*, the pupil of the latter, which limits the field of vision, appears so small that the luminous image cannot be seen through it. We must, therefore, bring these rays to a nearer focus. Now the rays, on leaving the convex surface of the cornea, are convergent, and our eye can bring only slightly divergent or parallel rays to a focus; all that is necessary, therefore, is to interpose a divergent or double concave lens *F*, of sufficient power, between these rays and the observer's eye. The amount of concavity required in the lens will depend on the distance of the luminous object from the eye; if the focal distance of the lens is equal to *FB*, the rays will be rendered parallel; or divergent, if the focal distance is less than *FB*. The conditions are the same as in the Galilean telescope or opera-glass, of which the convex media of the observed eye represent the object-glass, and the concave lens the ocular. For ordinary eyes, No. 10 of the common concave spectacle glasses is recommended; and Nos. 6 to 12 will supply the changes of lenses necessary as the luminous objects are at less or greater distance. Shortsighted eyes will require stronger lenses, or two lenses, one above another.

By means of the lens *F*, placed as close to the observed eye as the reflectors allow, the picture on the retina will be seen under the same angle; that is, of the same size as the image *B* appears to the eye *D*, or even a little larger; the parts of the retina will also be seen magnified in the same proportion. If the luminous object be distant from the eye eight inches, the magnifying power may be calculated at twenty-four times.

Instead of a concave lens, we might use two convex lenses, of which the first would form an inverted image, which would be magnified by the second. This would have the advantage, that, by regulating the distance between the two lenses, we might accommodate them to the eye looking at near or distant objects, for which purpose we require to change the concave glass. But they are more difficult to manage; there is less light, or the image is less clear; and as the rays must pass through the axis of the lenses, the requisite steadiness of the observed eye and the instrument is very difficult to obtain. Hence, the concave lens is preferred in practice.

*The Eye-Speculum*¹ (Fig. 2) consists of a convenient apparatus holding together the reflectors at the requisite angle and the lens. This is easily done by a square tube, *AA*, as short as possible, with one end cut obliquely to form an angle of 56° with the base or other end, which is cut across at right angles to the tube. The exterior is bronzed or darkened; the interior lined with black velvet. The glass reflectors, *B*, which should be four parallel and well-polished slips of glass, are fitted on at the oblique end, and fixed close by an open

¹ Fig. 2 represents a view in section of the eye-speculum, as made by Mr. Bryson, optician, Edinburgh, simplified from the instrument described by Helmholtz.

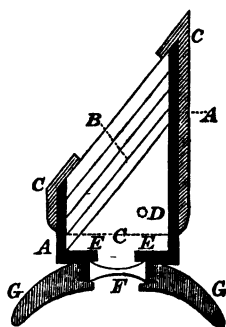
frame, *CC*, which is fastened down to the sides of the tube by screws at *D*; a diaphragm, *EE*, and the concave lens, *F*, are placed at the base, and secured by a hollow eye-piece, *G*, which can be screwed off and on, so as to allow the lenses to be changed. Biconcave spectacle lenses, Nos. 6 to 12, are used; for ordinary use, No. 10 is convenient.

Method of using it.—In a dark room, with a flame at the side, and on a level with the eyes, which should be shaded by a screen *K* (Fig. 1), the reflectors are turned towards the observed eye, and adjusted, so as to throw the light on it in the direction of the axis of the instrument. By a little management, the observer will perceive the inverted image of the flame, and will select a suitable concave glass to see it distinctly. It facilitates much the observation to adapt our sight as if the image were a distant rather than a near object; and the observed eye should be directed towards a screen (*H*, Fig. 1), divided into squares, which are numbered so as to regulate the movements of the eye. The observation is also easier with large pupils; hence the importance of shading the eyes; and the use of belladonna might, in many cases, be of great assistance.

Appearance of the Retina, &c.—If, when the apparatus is adjusted, and the flame distinctly seen, the observed eye be turned a little inwards, bloodvessels come into view, passing as it were over the flame; and by tracing these from their branches to the main stems, we come upon the central artery of the retina and the optic nerve, at once recognized by its great brilliancy and whiteness; the whole optic nerve is lighted up at once, but no image of the flame is seen upon it. This spectacle of the red vessels on the transparent white ground is of surprising delicacy and beauty; and, when once seen, renders the observer immediately familiar with the objects to be examined, for the largest vessels and the brightest illumination exist here. The artery and vein are distinguished by the deeper colour of the latter, but no pulsation is visible. These vessels dividing pass near the inner side of the optic nerve upwards and downwards, then give off numerous branches on the surface of the retina. There is a semicircular shaded streak at the inner side of the optic nerve, apparently caused by a deficiency of the retina. The retina surrounding the white optic nerve is of a bright red colour, which becomes deeper towards the periphery, and is caused probably by the capillary bloodvessels, too small and too faintly illuminated to be distinguished from the gray substance of the retina. Large and small branching vessels pass on its surface, which everywhere shows a distinct image of the flame, brightest around the optic nerve, and fainter towards the periphery. The yellow spot of Sömmering, or spot of direct vision, is of a dimmer yellowish-gray colour, without trace of capillary vessels; its observation is rendered difficult by reflection from the cornea, and the luminous image is much less bright than on the adjoining parts of the retina.

Physiological Remarks.—We can ascertain directly that the eye alters its refracting powers to suit its focus to different distances. Thus the image of a flame and of the retina becomes indistinct when the observed eye looks at an object much more distant than the flame. Or if a thread be held horizontally before a flame, its image on the retina will be seen when near the flame, but become indistinct or disappear when the thread is moved from the flame towards the eye. It also appears that neither the optic nerve nor its fibrils in the retina are adapted for receiving impressions from light; otherwise, when part of the retina is illuminated, the corresponding portion of the periphery should perceive light; and when luminous rays fall on the optic nerve, the whole field of vision should be lighted up, as if the whole retina were acted on. But this is not the case; for even less light is perceived when rays fall on the optic nerve than on other parts of the retina. It is, therefore, the nerve-cells

Fig. 2.



and corpuscles of the retina which perceive the luminous undulations, and localize them to the point on which they fall.

The Practical Applications of the eye-speculum may be expressed thus: It enables us to perceive alterations on the retina just as the unaided eye lets us see alterations of the cornea, iris, &c. Thus, congestion, varicose vessels, exudations on or in the retina, or between it and the choroid (the fibrin reflecting more powerfully, because less transparent than the retina, and obscuring the vessels). Shortsightedness may be directly detected by the curvature required for the concave lenses. The presence and degree of opacities of the crystalline will be more easily and certainly recognized. In short, nearly all that dissection has shown in the dead eye may, by this instrument, be recognized within the living one.

Dr. F. C. DONDERS, of Utrecht, states (*Nederlandsch Lancet* and *Monthly Journ. Med. Science*, April, 1853,) that Epkens, instrument-maker at Amsterdam, has made some useful improvements in Helmholtz's speculum.

Instead of the parallel glass-plates, inclined at the polarizing angle, Epkens employs as a reflector common mirror-glass, inclined at a somewhat variable angle, and from the central portion of which the metallic coating is removed, so that a clear circular space of three lines in diameter is left. By this means the reflection is made much more powerful; and as the eye under examination is close to the mirror, the rays are so cast back from the strongly glancing metallic surface of the glass that they are thrown upon the portion of the retina which we desire to inspect. For, indeed, although the less amount of reflection at the centre of the glass is, at some distance, distinctly appreciable, the eye under examination cannot perceive this at all, when it is situated at the proper distance from the speculum—a proof that the retina, even immediately behind the centre of the mirror, is illuminated in a sufficiently uniform manner by the diffuse-image of the reflected light.

A second alteration consists in combining with the speculum a cylindrical tube of 15 centimetres, = 6 English inches, long, by 3.5 centimetres, = 1.4 English inches, wide. To the outer end of this is fixed the lamp, whose rays are to reach the mirror through the tube; while a large thin black disk is attached to the body of the cylinder, screening the eye both of the observer and individual under examination from any direct rays from the source of light. In the tube a lens may also be placed to magnify the reflected image.

In the last speculum made by Rekos, there was a disk, having the form of a diaphragm with eccentric axis, carrying near its margin four common lenses of different powers, which, when the disk was turned, might be alternately adapted to the observer's eye. The lens best suited for distinct vision can be thus easily selected, while in operating with the original instrument it was necessary to fit one lens after another into the eye-piece, in order to make a choice. This improvement likewise has been adopted by Epkens.

Finally, and to this point we attach much importance, the whole apparatus is fixed to a stand, which can be screwed at the requisite height to a table.

We found, then, Epkens's speculum preferable, from its more strongly illuminating the retina; while, in order to conduct an observation, it was not necessary to exclude all daylight from the chamber, the reflected image on the cornea being hardly more an obstacle than when Helmholtz's speculum was used. But, above all, it appeared to us that the fixing of the whole apparatus, including the lamp, was a great improvement. For we found it excessively difficult to manage Helmholtz's speculum with the hand, and only now and then obtain with it a momentary view of the retina. We willingly attribute this to our own want of dexterity; and, indeed, we have the proof in what Helmholtz has seen, that the difficulties connected with the use of the instrument in its first form may, by repeated trials, be overcome. But an instrument is certainly preferable, which can be used by those who have less of practice and dexterity; and, in this point of view, Epkens's instrument assuredly excels. It is true that, with the fixed apparatus of Epkens, the movements of the eye necessary for the successive exploration of different parts of the retina cannot be followed; but there is no difficulty whatever, when from looking too much upwards, downwards, or sideways, the pupil is not placed immediately behind

the centre of the reflector, by gently moving the patient's head with the hand, in bringing it into the requisite position. The examination may be continued for the time that may be necessary, without any uneasiness for the eye of observer or patient, for Epkens has conveniently obviated the disagreeable propinquity of the faces (*bouche-à-bouche*) by the interposition of a velvet flap hanging from the cylinder.

We have already examined many eyes with this apparatus, and remarked that the brilliancy of the reflection in pupils of like width varies considerably in different individuals. It is not proposed to enter at present upon a description of all these physiological differences. We wish this communication to be regarded as a preliminary one, written solely with the view of showing that Helmholtz has not indulged too visionary a prospect as to the diagnostic value of his apparatus, and that he has conferred a real service no less upon ophthalmic surgery than upon physiology.

One of my first cases was a man of thirty-six years of age, who had, a short time before, arrived here from Surinam, and who, while there, had three years ago remarked, one morning, that straight objects appeared to his right eye crooked. Insensibility of about two-thirds of the outer and lower part of the retina had gradually followed, the central part corresponding to the axis of vision being included in the diseased condition. He could thus only somewhat indirectly distinguish objects placed below and to the outside of the eye, images from this quarter being of course projected upon the sound portion of the retina. As the direction of the axis of vision was somewhat disturbed, there was also this peculiarity in the case, that in the course of three years the patient had not learned to judge of distance quickly and correctly by means of the *left* eye, although it was neither long nor short sighted, and possessed considerable power of accommodation. If he wished to fill a wineglass, he commonly poured the liquid to its near or far side; and, when shooting, sometimes shouldered his gun at a passing insect, taking it for a bird.

After the application of belladonna, the ordinary mode of examination revealed nothing. I then, in company with my colleague, Van Goudoever, examined the eye with the speculum. We both perceived, with perfect distinctness, at the side of the bloodvessels, one or more dark, almost black blotches, which, from their somewhat red glance, appeared to be blood-coagula. Farther, over the whole diseased portion of retina, the reflection was exceedingly irregular—here, bright white; and there again so weak that little except the large bloodvessels could be distinguished; there were besides a number of rough parts, interspersed with unmistakably lighter and more shadowy points. This examination, accordingly, quite confirmed our suspicion that a limited effusion of blood between the choroid and retina, or in the latter membrane itself, had been the cause of the sudden distortion of objects (which must necessarily have been the consequence of displacement of the parts of the retina); and that a chronic inflammation had followed, and extended over two-thirds of the retina.

A second case was occasioned by a wound from a sharp-arrow, received many years before, on the inner side of the eyeball, and which had probably penetrated deep enough directly to implicate the retina. Blindness of this eye had, in the course of one or two years, followed; and there only remained some slight power of vision in a small portion of the retina. Here we first found a place where the black pigment was quite uncovered, and surrounded with a white, strongly reflecting margin; then, immediately outside the entrance of the optic nerve, we distinguished an almost black arch, shaped like a positive¹ meniscus, and which might have been regarded as a tear in the retina, had not two bloodvessels belonging to the membrane been distinctly seen stretched across the dark space. Helmholtz asserts that he usually distinguished a pale shadow, probably derived from the "*plica semilunaris*." We have likewise observed something of the sort in sound eyes, but nothing which, in point of darkness, could at all be compared with what was seen in this case. Besides, the arch was wanting in the same patient's sound eye. Farther, the blood-

¹ A meniscus, as distinguished from a concavo-convex lens. (Trans.)

vessels seemed here and there to end as if cut short; and some of them were alternately wider and narrower, which we never have observed to be the case in sound eyes. Finally, the reflection from the tissue between the larger vessels was unequal, but not in a degree which could have authorized any conclusion from this circumstance alone, as to a morbid condition.

43. *On Phosphene, or the Luminous Spectrum produced by Pressure on the Eyeball.*—Several articles have appeared in the French medical journals during the last two or three years, on the subject of phosphene,¹ and the *Gazette Médicale*, for January 15, contains a summary of some observations made by M. SERRE, of Alais, at a meeting of the Academy of Medicine.

Abrupt pressure on the eyeball, behind the line of juncture of the cornea and sclerotic, causes, at the *opposite point* in the interior of the organ, a sensation of a luminous ring. It varies in colour; it is generally whitish—sometimes bluish. The included space may be quite dark, or slightly clear; in the latter case, it contains a second ring, concentric with the first, and of a deep tint. This annular luminous appearance constitutes *phosphene*.

The ring is sometimes quite circular, sometimes elliptical, sometimes interrupted at one or more points. According to M. Serre, the ring is never entire; it always presents a lacuna, which is invariably directed backwards, and is less in the image on the temporal side than in others, especially in the supra-orbital image. This indentation has not been noticed by Müller or by Brewster, who have directed particular attention to phosphene. Dr. Dechambre, who writes the notice of M. Serre's communication in the *Gazette Médicale*, doubts whether the interruption is of so constant occurrence as is described by M. Serre. He has several times succeeded, by pressure on the inner side of the eye, in producing an unequal circle, broken at a number of points, but *without a lacuna*. A slight degree of pressure gave rise to the appearance of a segment of a ring; and, probably, the interruption in the circle would be due to insufficient pressure.

The phenomenon lasts only one or two seconds, if the pressure be rapidly made, so that the eye receives a sort of shock. If the pressure be continued, the image is gradually effaced, in a variable space of time. Its intensity is greatest when the eye is in the greatest amount of darkness. The experiment succeeds best just after transition from a very light to a dark medium.

At the same time with the image on the opposite side, there is often perceived, at the seat of the pressure, a second image like the first, but smaller and less luminous, and requiring great attention to perceive it. The indentation appears turned in the same direction as that of the other image. The double spectrum is produced whether the eyes be closed or open.

Several explanations of this phenomenon have been offered. Sir D. Brewster explains it by supposing that the retina undergoes pressure at two points—one at the part directly pressed on, and the other in an opposite direction. A ring of liquid is formed round each of these points. If pressure on the cornea does not produce phosphene, it is because it ends in the *punctum cæcum*. This explanation, which is accepted by M. Serre, is at present that which is most satisfactory.

M. Serre has endeavoured to apply this phenomenon to the physiology and pathology of vision. What is the meaning of the phenomenon? It means, first, that a mechanical impression on the retina gives rise to a sensation analogous to that produced by its proper stimulus, light; secondly, that the impression made is transmitted to the opposite point of the retina, in virtue of a physiological law, and without the intervention of known physical laws. M. Serre states that the crystalline lens is traversed at its centre, by the line passing from the point of contact to that where the object is perceived. If this be true also for images formed by the action of light, the inversion of the image produced by the crossing of the rays, becomes corrected without the intervention of any operation of the mind. This theory is, however, founded on uncertain

¹ From φῶς, light, and φαίνω, I cause to appear.

data, and scarcely agrees with the explanation of phosphene given by Sir D. Brewster, and adopted by M. Serre.

M. Serre has applied the phenomenon of phosphene to the diagnosis of some diseases of the eye, especially paralysis of the retina. The phenomenon is not always produced at will, nor at the first trial; but it is impossible to find it absent during several days, without concluding that the retina has lost its power.—*Association Medical Journal*, February 4, 1853.

44. *Colour-Blindness*.—In the *Athenæum* for January 29, Mr. W. H. TYNDALL pointed out the danger arising from the use of colour-signals on railways; where *red* signifies danger; *green*, caution; *white*, safety.

White light, it is well known, consists of three primary colours, red, blue, and yellow; any two of these producing the secondary colours; thus, red and blue give violet, the complementary colour of which is yellow; red and yellow give orange, to which blue is complementary; whilst blue and yellow give green, of which red is the complementary; hence it follows that when a secondary is mixed with its proper complementary colour, *white* light results. Now, with the colour-signals used on railways, it so happens, as will be evident from the foregoing, that if the *danger* and the *caution* colours, viz., red and green, are combined, the *safety* colour, or *white light*, is produced. On putting this to the test of experiment, Mr. Tyndall found that when a pointsman, stationed at one end of a tunnel some four hundred yards in length, was directed to report the signals made by a man placed at the other extremity of the tunnel, who was furnished with two lamps, a green and a red one, and directed to flash them together, the pointsman, a practised hand, declared that the light was *white*, indicating safety; nor could he be persuaded that the red and green lamps were used, in spite of subsequent explanation. Thus the very means now adopted for attaining safety, in practice involves the greatest risk; since the danger and caution colours, when seen together, or in rapid succession, at a distance, produce the impression on the retina of the safety-signal, and may, probably, already have actually been the cause of the most frightful accidents, when we remember the contradictory evidence given on inquests with respect to the colour of the signals.

Dr. George Wilson, of Edinburgh, author of *The Life of Cavendish*, in a letter to the same journal of the week before last, directs attention to an additional source of danger arising from this use of coloured signals on railways, owing to the frequency of Daltonism, *Chromatopsia*, or colour-blindness, which, since the interest excited by Dalton's publication of a defect in his vision, which led him to confound scarlet with green, has been found to be far more prevalent than might be imagined, and thus increases the probability of danger arising from use of coloured signals. He first of all remarks that colour-blindness is a very common affection, Prévost declaring that it occurs in one male among twenty; whilst Seebeck found five cases among forty youths in Berlin. Dr. Wilson states that amongst his own pupils (in chemistry), this winter, he has detected two marked instances, and that five others have made themselves known to him; one of the two pupils having four relatives also subject to this affection. Professor A. Thomson, of Glasgow, made a similar investigation some years since, and arrived at the conclusion that, from the frequency of colour-blindness, the use of coloured signals on railways, or elsewhere, is fraught with peril to the public.

Farther investigation amongst the students at Edinburgh, shows that 1 in 37 or 38 are defective in the appreciation of colour, this defect appearing to be almost exclusively confined to males, amongst whom are to be found painters (artists), dyers, stationers, surgeons, a shawl-manufacturer, and an enamel-maker, employments we should have presumed to require the nicest appreciation of colour.

It also would seem that this defect is usually so great as to incapacitate those who are subject to it from distinguishing some colours, and especially *red* from *green*, and *green* from *red*, the railway signal colours; thus four of Dr. Wilson's own cases were unable to distinguish these colours; three instances observed by Professor Kelland were similar to and as marked as Dalton's own case; one

of the surgeons, above alluded to, betrayed his defect by his inability to distinguish the scarlet of the berries of the mountain-ash from the green of its leaves; another supplied himself in Paris with a *bonnet-rouge* in lieu of a green cap, as he intended; and still worse, brought home a flamingo-coloured dress to a lady who had requested him to procure her a green one. Others are unable to distinguish ripe from unripe strawberries but by the touch; one stationer offered blue sealingwax for red; others made continual blunders about the colours of the bindings of books, the colours of pink and green tinted paper, &c.; all of these proving the frequency of this inability among the community to distinguish between red and green colours.

Dr. Wilson also finds that in the cases he himself has observed, and also, he thinks, in those of Professor Kelland, there was not merely *chromatopsedopsis*, but actual colour-blindness; so that they did not merely confound green with red, but doubted about every colour; and, on different occasions, gave different names to the same colours; betraying an imperfect appreciation of all colours, confusing one with another. On these grounds, he recommends a speedy investigation of all the railway officials who are intrusted with or observe signals, in order to detect the cases of colour-blindness which probably occur amongst them, with a view to remove this cause of public peril, or, at any rate, an alteration of the signals employed, so as to avoid the danger thus incurred; concluding by requesting statistics on this subject from all who may feel interested in it, for which purpose we subjoin his address,¹ that such of our members who may be so disposed may communicate the results of inquiries in their own practice to a quarter where these results may be tabulated, and probably lead us to some interesting conclusions upon this singular optical affection. The comparative freedom of females from this affection is very remarkable; Dr. Wilson stating that only six female cases are as yet on record.—*Assoc. Med. Journ.* April 15, 1853.

45. *Strabismus*. By Professor SYME.—The bad effect of withdrawing a particular operation, or the treatment of a particular disease, from the general practice of surgery, is well illustrated by what has happened in regard to the cure of squinting by division of the muscles which cause this deformity. The public was greatly delighted with the prospect of obtaining relief from an unseemly and inconvenient condition, which had baffled all previous attempts to effect its remedy, and readily submitted their eyes to any who undertook the reparation of their obliquity on the new system. From the lowest level and thickest obscurity, through the united influence of impudence and credulity, a host of squint-cutters started into notice; and although they might never have had occasion before to use the knife or scissors on a living human body, freely practised on the patients who crowded round them. But the process required being a surgical operation of great nicety, and entirely useless unless perfectly complete, it is not surprising that in such hands failure was more frequent than success; and the former result, instead of being attributed to its true source, was accounted for by alleging that the relief was not always permanent, and that relapse could not be prevented. The operation, therefore, got a bad name; and although deserving the greatest confidence, is even now still labouring under the obloquy incurred by its self-constituted and unworthy professors.—*Monthly Journ. Med. Science*, April, 1853.

46. *Distichiasis*.—A late writer on ophthalmic surgery (Mr. Walton) denies the existence of such an affection as distichiasis, or the supplemental development of hair on the inner margin of the lid; but maintains that all these cases are simply the result of a displacement of the original hair-bulbs (trichiasis).

Mr. Wilde, of Dublin, on the contrary, asserts (*Dublin Quarterly Journal*) that he has several preparations in his possession which show an undoubted additional growth of these hairs. In these cases, he states, he has not only examined the tarsal margins minutely after their removal, but counted the cilia, and they invariably amounted to more than what occurs in health.

¹ Dr. G. Wilson, 24, Brown Square, Edinburgh,

Mr. White Cooper maintains the same view; in a late number of the *Association Medical Journal* (Feb. 18, 1853), and relates an interesting case upon which he has recently operated. A careful examination of the parts removed in this case confirmed, he says, the opinions formed by him from other cases, "that in true distichiasis the pseudo-cilia are not merely true cilia, the bulbs of which have been displaced by disease affecting the border of the eyelid, but that they are independent of them, issuing in regular order from the ocular margin, and being much finer than the true cilia. An essential distinction between distichiasis and trichiasis is, that in the former the growth and situation of the inverted hairs is independent of disease of the lid; while in the latter some morbid condition has almost certainly existed.

"The following is perhaps the commonest mode in which the eyelashes become displaced:—

"A yellow suppurating spot, involving two, three, or more lashes, will be seen at the margin of the eyelid. On lifting with a cataract-needle the little scab covering this, a drop of pus escapes, and an ulcer is laid bare, which has dissected round the cilia, often exposing the very bulbs; the cilia having thus lost their natural channels, easily acquire a false direction, which is confirmed by the contraction of the cicatrix after the healing of the ulcer; thus the hairs are drawn inwards against the eye."

The following are the steps of the operation for distichiasis, which, after considerable experience, Mr. Cooper has found the easiest and most complete:—

"With a fine camel-hair pencil and lampblack, the limits and line of an incision, which shall include all the pseudo-cilia, are to be marked on the skin about the eighth of an inch from the outer margin of the lid; this is desirable, as the free hemorrhage and loose texture of the parts renders it difficult to preserve an accurate direction during the dissection. Then, with a sharp pair of scissors, the edge of the lid, supported on an ivory spatula, is to be divided at the extremities of the proposed incision. The skin is thus set free; and by means of a sharp scalpel the skin, fibres of the orbicularis, and bulbs of the cilia may be dissected from the tarsal cartilage with facility. When this strip has been removed, it is proper to wait until the bleeding has ceased, when any stray black points (hair-bulbs) may be snipped out with curved iris scissors. The edges of the incision are to be carefully drawn together with sutures of fine Chinese twist, and cold-water dressings alone are required. At the expiration of about twenty-four hours, the sutures should be removed, or the lid will become puffy; their extraction requires a light hand, in order that the adhesions may not be disturbed.

"The removal of the edge of the lower lid is somewhat more difficult than that of the upper, for the spatula, which protects the eye, and is a firm point on which to cut, cannot be conveniently used; the lid must be drawn down to avoid the possibility of wounding the eye, and the traction on the integuments throws the tarsal cartilage back, so that it is rendered deeper than natural. Instead, therefore, of cutting down, I find it is best to thrust in the point of the knife at the limits of the intended incisions, and to cut towards the surface. The boundaries having been thus divided, the flap should be dissected off the cartilage, and, with a pair of scissors, snipped through close to the mucous membrane.

"The operation is painful; the hemorrhage always free; and it is best to have two assistants, one to hold the head of the patient firmly, the other to attend to the spatula and to sponge."

MIDWIFERY.

47. *Menstruation and Superfoetation.*—Dr. MATHEWS DUNCAN exhibited to the Edinburgh Physiological Society a dissection of a gravid uterus, at about the end of the second month of pregnancy. He specially pointed out the mucous structure of the decidua vera, and of the decidua reflexa, and the open state

of the Fallopian tubes and cervix uteri up till this period. The adherent plug of cervical mucus was also well seen.

The preparation illustrated the possibility of the menstrual discharge, which occasionally occurred in early pregnancy, being derived from its ordinary source, the lining membrane of the cavity of the uterus. This might be the source of the discharge till the cavity of the uterus was completely occluded by the contact and coalescence of the decidua vera and reflexa, which took place in the third month of pregnancy. The only obstacle to the issuing of the discharge from the uterus was the cervical mucus. But this was also present in the unimpregnated organ, and had to be displaced or opened up for each ordinary menstrual period.

On the same grounds, Dr. M. Duncan believed that superfetation might take place up till some time in the third month of pregnancy. The communication between the vagina and the ovaries was quite free up till that time. By supposing the first child in a case of superfetation, born at the end of the seventh month, and already viable, and the second to have been conceived in the end of the third month of the pregnancy of the former, an interval of five months is gained between the births of viable children, a space of time that will include and explain most authentic cases of this occurrence.

Dr. D. also made some remarks on the fanciful notions of authors as to the function of the decidua reflexa, in regulating the motions of the ovum on its entrance into the uterus, and showed that they were untenable.—*Monthly Journ. of Med. Science*, May, 1853.

48. *Researches on the Pathology of Obstructions of the Veins, and the Nature and Proximate Cause of Phlegmasia Dolens.* By F. W. MACKENZIE, M. D., London. (Proceedings of the Royal Medical and Chirurgical Society, March 8, 1853.)—The author observed that the facts brought forward by Dr. Davis (twelfth volume of the *Transactions*), with reference to the important relations subsisting between certain lesions of the crural veins and the general phenomena of phlegmasia dolens, had been generally recognized, and fully substantiated by the investigations of various pathologists; but that the conclusions drawn from them had not been accepted with the same unanimity, for whilst many concurred with Dr. Davis that the affection of the vein was the proximate cause of the disease, others believed it to be of secondary importance, and estimated it rather as an effect. It was the design of the present communication to inquire more particularly into the correctness of these respective opinions. After noticing the general characteristics of the disease, as defined by Callisen and Hall, he stated that the local manifestations were characterized by two principal conditions—first, by a persistent and peculiar swelling of the affected limb, with a degree of tension, heat, firmness, and elasticity not common to ordinary oedema; secondly, by an impairment of the nervous and muscular functions of the limb, indicated by pain, tenderness, and loss of motor power. The author then details a series of experiments to determine how far these conditions could be produced in parts where the veins had been artificially inflamed. The experiments consisted of three series: I. The application of ligatures to the iliac veins, followed by observation of the results at certain definite periods after the operation. II. Chemical and mechanical irritation of the lining membrane of the iliac veins. III. The effects of sustained compression of the femoral veins by metal plates. Then followed a full description of the experiments, which were made on dogs; and the state of the limb, the constitutional symptoms, and the dissection after the animal had been killed, were in each instance carefully recorded. The principal facts elicited by the first series of experiments—viz., ligature of the iliac veins, were, that the constitutional disturbance was very transient, and referable rather to the extensive wound necessary to expose the vein, than to the operation of the ligature. The morbid effects of the ligature were, slight thickening of the coats of the vein, and a loose, black, non-adherent coagulum at the immediate spot of the ligature. In forty-eight hours there was increased opacity, thickening and vascularity at the seat of ligature, and ulceration of the coats of the vein. In seventy-two hours the coats were nearly ulcerated through, and the vascularity and thickening, both above

and below the ligature, became greater. In ninety six hours the vein was completely divided by the ligature, and the parts above and below highly vascular, infiltrated, and swollen. A coagulum extended downwards, and was slightly adherent at the point of division. On removing the coagulum, a shreddy, patchy appearance was left, occasioned by its partial adhesion to the lining membrane. The author thought that these consequences of crural phlebitis, induced by ligature, differed very widely from those observed in phlegmasia dolens. The constitutional symptoms were more transient, and the local symptoms trifling as compared with this latter disease. But while the morbid effects of ligature of the vein did not altogether accord with the phenomena of phlegmasia dolens, they, on the other hand, were identical with such as have been observed from time immemorial in connection with wounds, injuries, and operations upon these vessels. The author next proceeded to detail the results of irritation of the iliac veins by chemical and mechanical agents. He employed strong solutions of nitrate of silver, and solid pieces of bougie fastened within the vein. Inflammation, localized to the seat of the experiment, was in each case produced; but in this series neither the local nor constitutional symptoms were those characteristic of phlegmasia dolens; and, if the foregoing experiments possess any value, they indicate that this disorder was not producible by inflammation or obstruction of veins, however rapidly induced. In all these experiments there was an absence of constitutional fever; the swelling of the limb was neither elastic nor abiding, but simply cedematous; and there was no impairment either of its sensory or motor functions. With such facts demonstrated, the author was of opinion that the affection of the veins was not the sole or even essential lesion, or the proximate cause of the complaint. The problem then to be solved was, what were the specific causes or conditions which can simultaneously affect the sensory, the motor, the secretory, and the vascular organs of the affected extremity, so as to give rise to the concurrent phenomena by which phlegmasia dolens is characterized. Were they local or constitutional? and in what did they respectively consist? The author then directed attention to the pathology of venous obstruction, and pointed out the contradictory opinions expressed in regard to it. He showed that phlebitis might exist in a variety of ways, and yet not induce phlegmasia dolens, although many writers had somewhat vaguely asserted the former to be a necessary precedent condition. In relation to this branch of the inquiry, the subject of irritation and injury of the external coat of veins, as connected with the causation of venous obstruction, next engaged attention. Experiments were detailed, in each of which the external coat was either mechanically injured, or irritated by the free application of some corrosive or chemical irritant. Others followed, in which the internal coat was similarly treated, to illustrate the causation of venous obstruction. In these last experiments, it was attempted to ascertain how far could be reconciled the conflicting opinions on the one hand, that phlebitis was primarily induced, and that effusion of lymph and coagulation of the contained blood, was the subsequent cause of obstruction; or, on the other, that the blood was first coagulated by the irritant, and that phlebitis and obstruction followed. In these experiments the vein was first emptied, and a space included between two ligatures. Chemical irritants were applied to the lining membrane, and the blood subsequently permitted to flow through. The agents employed were, solutions of the bichloride of mercury, sulphate of zinc, and nitrate of silver. Veins thus treated contained only some traces of fibrinous looking matter, having no analogy to coagulate lymph, and evidently deposited upon rather than exuded from the vein. The author thought that veins were not ordinarily obstructed by the effusion of such lymph, although it was not his intention to affirm that this never took place. He next offered some observations on the obstruction of veins from spontaneous coagulation of the blood consequent on extreme vital exhaustion, as well as upon its coagulation from the direct action of morbid secretions. Upon the latter branch of the subject, reference was made to the papers on the Pathology of Phlebitis, by Mr. Henry Lee, and to the opinion of that gentleman, that the admixture of pus and other morbid animal secretions with the blood caused coagulation whenever these fluids were received into the veins; and that from the coagulum so formed a

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pellicle was separated, which became vascular, and, finally, firmly united to the circumference of the containing vessel, so as to become inseparable from it, but upon reference to direct experiment the author was unable to verify these conclusions. The foregoing investigation led the author to the following deductions:—

1. That inflammation of neither the iliac nor femoral veins would account for or give rise to phlegmasia dolens.

2. That the extensive obstruction of the veins met with in this disease is not producible by merely local causes, such as injury or inflammation of these vessels.

3. That irritation of the lining membrane of veins, independently of such local injury or inflammation, will alone give rise to obstruction of these vessels, to an extent commensurate with that of the irritation which may have been excited within them.

4. That extensive irritation of the lining membrane of veins, giving rise to obstruction, and all the phenomena of phlebitis, may be excited by the presence of various unhealthy matters in the blood, circulating within this fluid, and determined upon particular portions of the venous system.

5. That the origin of the disease is, therefore, to be sought for rather in a vitiation of the circulating fluid than in any local injury, inflammation, or disease of the veins.

The author then referred to the causes capable of giving rise to an unhealthy condition of the blood; these were either local or constitutional; unhealthy secretions, suppuration and discharges belonged to those favourably circumstanced for reabsorption; and he proceeded to consider how far these deductions were supported by the clinical history of phlegmasia dolens. To determine this, he had carefully analyzed and arranged, in a tabular form, the principal facts of 100 cases, reported in special treatises, or in the periodical journals. These tables contained the particulars of sixty cases, which occurred in connection with childbearing, and of forty arising from other causes. The former class contained twenty deaths and twenty recoveries. The inference to be drawn from these cases was, that the disease was essentially a blood disease; that it had the same general laws, similar tendencies, and required the same principles of treatment as other blood diseases; and that the affection of the veins, like that of the nerves, the lymphatics, and the areolar tissue of the limb, was essentially secondary to, and dependent upon, an antecedent vitiation of the circulating fluid. The results of clinical experience thus harmonized with those of physiological research, and the author hoped that this investigation might not be altogether unimportant in its application to practice.

Mr. HENRY LEE remarked, that as the author had alluded to some experiments instituted by himself a few years ago, and had stated that the results of his own observations did not quite accord with those which he (Mr. Henry Lee) had put forward, he might perhaps be pardoned if he offered a few remarks relative to the subject thus brought forward. The author had stated that the pathological conditions observed in phlegmasia dolens, could not depend on the obstruction of a large vein by the presence of a coagulum, because no such conditions resulted if the vein was simply tied. But it appeared to him that the analogy between a tied vein and the obstruction met with in phlegmasia dolens did not hold good, for in phlegmasia dolens several venous trunks were choked by coagulum, whereas by the application of a ligature only one was obstructed. The author had declared that deligation of a vein was not capable of occasioning a rapid coagulation of the blood moving within it, and that he had observed, on several occasions after a vein had been tied, that the blood remained for some time fluid on each side of the ligature. This statement he (Dr. Henry Lee) could confirm; for in experimenting on asses, he had noticed that when the jugular vein had been plugged by a coagulum the tissues on that side of the neck fell into a state of general oedema, very similar to that observed in phlegmasia dolens. No such appearances, however, followed the application of a ligature to the jugular vein. Inflammation of veins indeed followed with great rapidity after stagnation, but was not so readily set up by deligation. With reference to the influence of pus when injected into the veins, the results of the

author's extensive experiments did not differ so widely from those noted by himself as might at first sight be supposed. Since the performance of his first experiments he had instituted others to elucidate this point, and had found that the changes induced in the blood by the injection of pus into the veins varied according to the quality and source of that inflammatory product. Thus pus from an acute abscess would certainly produce immediate coagulation of the blood, but pus from a chronic abscess was not followed by the same effects, but only by a separation of the blood into its component parts—viz., liquor sanguinis and blood-corpuscles, while decomposing putrid pus set up neither of these changes, but merely converted the blood into a black, grumous, semifluid compound. It had been stated by the author that a simply irritated condition of the lining membrane of a vein, unaccompanied by any alteration of structure, such as abrasion or impairment of smoothness, was sufficient to establish coagulation of the blood flowing in its channel, and to account for many of the pathological conditions observed in phlegmasia dolens. But the experiments which he (Mr. Henry Lee) had performed, led him to believe that lymph was not effused from the lining membrane of a vein, unless that tunic had undergone some previous impairment, and he thought it quite as likely that the morbid material which ultimately coagulated the blood did so by first altering the structure of the lining membrane, and that this tunic reacted on the blood, as that the plugging resulted from an alteration in the quality of the blood, which irritated without impairing the internal tunic.

Mr. ARNOTT observed that the author was entitled to great praise, both for the laborious industry with which his paper had been worked up, and the patient analysis to which the materials composing it had been subjected. He rose with some hesitation to express the doubts he entertained respecting some of the author's conclusions—conclusions which, for the reasons he had mentioned, might not have been so clearly established as the author had wished. The experiments adduced were, in his opinion, insufficient to support the doctrines based upon them. Physical injuries of various kinds had been inflicted on the veins of the lower animals, and, because their results did not accord with the phenomena of phlegmasia dolens, the author considered the disease in question resulted from a morbid condition of the blood, which operated by irritating the lining membrane of the veins. Now he thought this conclusion not sufficiently established by the author's experiments. He should hesitate to admit that the veins were only liable to one species of inflammation because mechanical injuries inflicted on them, in the lower animals, had hitherto produced only one kind. We should not argue thus in other pathological questions. The skin was liable to various diseases and various inflammations; but because one was observed more frequently than the rest, we should not be justified in denying the possibility of the others. The various forms of counter-irritation, such as moxas, setons, blisters, &c., were undoubtedly generally followed by a purely local, circumscribed inflammation; but no one would, therefore, deny that a spreading inflammation could follow the employment of these agents. A large number of wounds might be inflicted, and all be healed, without the super-vention of erysipelas; but the possibility of erysipelas, under circumstances of injury, would not on that account be questioned. In the same way, he conceived that though numerous injuries might be inflicted on veins, without setting up a spreading inflammation of their tunics, yet that such an inflammation might on certain occasions follow their application; and spreading inflammation of veins might, he thought, be induced by the application of chemical irritants to their tunics, although such a consequence did not generally ensue. The author had entered minutely into the question concerning the first morbid changes which terminated in phlegmasia dolens. Did these changes commence in the blood, or in the coats of the veins? The author referred them to the blood, and believed in the existence of a general contamination. He (Mr. Arnott) thought that the coats of the veins were most frequently the first to suffer, and he felt indisposed to admit the general contamination, for the absence of secondary deposits from the morbid anatomy of phlegmasia dolens furnished the strongest evidence for its being a purely local affection. The clots by which the veins plugged might be formed in consequence of inflammation of the venous tunics,

or from contamination of the blood; either condition was, he thought, adequate for their production.

Mr. HODGSON did not consider phlegmasia dolens to be a "blood disease," according to the common acceptation in which that term is used. He considered it to be owing to an obstruction in the pelvic, iliac, and femoral veins, arising from the passage into those veins of putrid and irritating matters derived from the uterus after parturition. Other diseases were capable of producing the same condition; and he had seen it caused, as he believed, in a similar manner from the absorption of putrid matter from ovarian cysts after tapping, in cases of carcinoma of the uterus and rectum, extensive chronic abscesses about the hip and perineum and in the upper part of the thigh; and a similar condition from the like cause in various other parts of the body. The irritating matter, having entered the large veins, excites inflammation in them, and an effusion of plastic lymph upon their internal surface; to this the fibrin of the circulating blood becomes attached, and a plug is formed, which fills up the vessel. If the blood throughout the body were contaminated—if phlegmasia dolens, as it is called, were a blood disease, why were these particular veins the sole seat of the affection, as in almost all instances they were?—why did not the morbid condition of the blood affect other and more remote parts? Moreover, the symptoms which attended this condition were, except in extreme cases, those of a local, and not of a general or systemic affection. Phlegmasia dolens, in most instances, was not a disease dangerous to life, and patients generally recovered from it. For these reasons he was unable to admit that this disease depended upon a general disorder of the blood; he regarded it as a local affection arising from the reception of irritating matters into the veins, producing phlebitis and consequent obstruction of their cavities, with its usual consequences. That the coats of the veins were, in most instances, the seat of active inflammation, was, he thought, proved, not only by the effusion of plastic lymph intimately adherent to the lining membrane, but also by effusions of pus, which are frequently found intermixed with the plugs by which the veins are obstructed.

Dr. COPLAND had seen several cases of phlegmasia dolens, and thought the pathological phenomena presented by them bore no analogy to the results of the author's experiments. He did not indeed believe that phlegmasia dolens could be imitated by experiment on the lower animals. It was, as Mr. Hodgson remarked, a local affection, and depended on several causes. An assemblage of morbid conditions combined, in most instances, to constitute it, each of which might be singly produced in other affections; thus the white swelling or general oedema depended principally on obstruction to the lymphatics, and might follow after cancer of the groin or within the pelvis, and after the obstruction of these vessels the veins might become secondarily affected, so that a condition similar to phlegmasia dolens would then be set up. He had seen an instance in which the disease originated in inflammation of the nerves of the thigh; and although there was no doubt that the blood was contaminated locally, yet there were no sure grounds for believing that such contamination had pervaded the whole circulation.

Dr. LOCOCK thought that the interval which elapsed between parturition and the commencement of phlegmasia dolens furnished an argument in favour of its being a local disease. There were very few cases in which it showed itself before a fortnight after parturition, and a week was the shortest interval with which he was acquainted. He was inclined to believe that there was an hereditary predisposition to phlegmasia dolens in certain families. The following instance seemed to prove it: A nobleman had four daughters; they all married young, and all had phlegmasia dolens after their first pregnancy, and the nobleman himself had suffered from the same complaint.

Dr. MACKENZIE said: In proceeding to reply to some of the observations which have been made in the course of this discussion, he would wish to state at the outset, that it did not appear to him that any fact or circumstance had been mentioned which was not strictly reconcilable with the principles affirmed in his paper; and that, should such appear to be the case, it was due to the fact that a portion only of it had been heard, that the whole of the pathological part

of the inquiry had been omitted, and that that relating to the experimental investigation into the nature, origin, and causes of obstruction of veins had been only partially and imperfectly brought before the Society. Nor did he complain of those omissions; for, from the length of the paper, and the number of details which it was felt necessary to adduce in support of the several propositions affirmed, he felt that its entire reading would have been impossible within the period of an ordinary meeting of the Society. In undertaking this inquiry, it was his especial object to elucidate the pathology of phlegmasia dolens, and in doing so he could not overlook the important relations which subsisted between it and certain lesions of the crural veins, nor the theory which regards such lesions as its proximate cause. Accordingly, his first investigations were directed to a determination of the nature of those relations, and to ascertain how far inflammation and obstruction of the crural veins were capable of giving rise to the phenomena of the disease, and the results of such investigation clearly show that the disease was not thereby producible. Believing, however, that an inflamed and obstructed condition of the crural veins, although thus shown not to be the proximate cause of the disease, was yet an important pathological constituent of it, he (Dr. Mackenzie) proceeded in the next place to investigate how such lesions could be produced concurrently with the other phenomena of the disease, and this necessitated a general inquiry into the nature and pathology of venous obstruction, the general results of which may be thus stated. That whilst inflammation of the veins, however induced, failed to give rise to anything like those extensive obstructions which are met with in phlegmasia dolens, they may be readily produced by injecting irritating fluids into the blood, or, in other words, by vitiating this fluid, and this in the absence of any injury or inflammation of the veins; and it should be added, that this was as clearly demonstrated experimentally as was the fact that such obstructions are not producible by exciting inflammation of the venous tissues. He was thus led to conclude that phlegmasia dolens, as well as the extreme obstruction of the veins met with in the disease, depend rather upon an abnormal condition of the blood than upon inflammation of the veins, or any other organ or structure of the affected extremity; and this brought him to the observations of Mr. Henry Lee, as to the mode in which a vitiated condition of the blood gave rise to the phenomena of obstructive phlebitis. Now that gentleman, as he understood, appeared to regard all the actions which ultimately tend to its production as originating in the blood, and being in the first place limited to this fluid; that all morbid agents received into the veins immediately produce coagulation of the blood, irrespectively of any action of these vessels; that from the coagulum so formed lymph is exuded and organized, in virtue of certain vital properties possessed by the blood; and that it is only in the course of the organization of such lymph that the venous coats become engaged, and take on increased or inflammatory action. Now, with reference to these opinions, he (Dr. Mackenzie) would first observe that there was a source of error in the experiments upon which they were founded, which had not been sufficiently attended to—viz., that in all cases in which irritating fluids were thrown into the veins, their action must be simultaneously both upon the blood and their lining membrane; and that, therefore, any resulting phenomena cannot be referred exclusively to either. But, farther, he would oppose to the accuracy of these views the two following series of facts recorded in his paper. First, that if the lining membrane of a vein is irritated, the blood having been previously excluded and subsequently readmitted, it will be found, after a time, to have coagulated throughout the entire length of the vein which had been irritated; and secondly, that if an irritating injection be thrown into a vein, and the state of the blood and the vein shortly afterwards examined, it will be found, not that the entire column of blood in the vein has been coagulated, but that portion only which had been in contact with its lining membrane; facts which clearly showed that this membrane, when irritated or excited, had the power of producing coagulation of the blood, and that this took place in virtue of some impression made upon it by the lining membrane of the vein when thus irritated or excited. Mr. Arnott appeared to consider the extensive obstructions of the veins met with in phlegmasia dolens as rather dependent upon some specific form of venous in-

flammation, than upon any primary morbid condition of the blood. He suggested that notwithstanding that the ordinary causes of inflammation applied to a vein fail to excite more than trivial consequences, that he cannot doubt the occasional occurrence of some more specific form of inflammation from the operation of the same causes; and he observed that because wounds and other injuries of the skin may fail in fifty cases to excite more than healthy inflammation of that organ, that he will not be persuaded that they may not, in the fifty-first, excite an erysipelatous or some other unhealthy inflammation. Now, with reference to this observation, he (Mr. Mackenzie) would wish to inquire whether it does not, in reality, concede the whole question? for upon what can a specific inflammation depend but upon some specific or peculiar condition of the blood? Again, with regard to the veins, suppose that in a million cases the ordinary causes of inflammation applied to them failed to excite extensive obstruction of these vessels, whereas in the millionth and one such resulted, should we be justified in regarding the one case as a rule, and the million cases as the exception? Was it not rather probable that the peculiarity in the exceptional case was rather dependent upon some peculiar condition of the blood, than upon any disposition on the part of the vein to develop such specific inflammation, in the absence of such case? This view, he submitted, was at least rendered probable, when it was considered how latent and insidious are some of the causes which tend to impair the normal condition of the blood. With regard to the observations of Mr. Hodgson, it did not appear to him (Dr. Mackenzie) that the facts he had mentioned were at all at variance with the principles affirmed in the paper. The blood, he need scarcely observe, was liable to become diseased or contaminated in a variety of ways; and of the causes productive of such results, some are of a local and some of a general character. Now, the circumstances Mr. Hodgson had referred to—viz., cancerous diseases—constitute some of the more important local causes, for they tend sooner or later to give rise to suppurative or unhealthy discharges; and these, on being absorbed into the system, tend not only to vitiate the blood, but to produce irritation or inflammation of the vessels through which they are transmitted, whether these happen to be absorbents or veins. As to the particular veins which are liable to become inflamed from a general vitiation of the blood, he (Dr. Mackenzie) believed that in the majority of cases we may recognize the operation of certain determining causes. This question, moreover, he had fully considered in the pathological part of the inquiry, and he regretted that the time of the Society would not now enable him to enter upon it. The facts stated by Dr. Locock were not only of extreme interest in themselves, but highly important to the present inquiry; indeed, in the whole course of his (Dr. Mackenzie's) experience or reading, he had never met with such strong testimony to the correctness of the opinion that phlegmasia dolens was a constitutional disease; for hereditary diseases are, in the strictest sense of the word, blood diseases; and if, as stated by Dr. Locock, phlegmasia dolens did really occur as an hereditary affection, we may deduce a strong argument from the fact in favour of its being a blood disease. He (Dr. Mackenzie) did not know that any other points had been raised in this discussion which required to be noticed, and was unwilling to occupy the attention of the Society at greater length. He extremely regretted that the number of details which it was necessary to introduce into his paper, in order to substantiate the several propositions affirmed in it, were such as to have prevented its being brought fairly before the Society. When, however, hereafter it shall be published entire, and the facts and inferences contained in it fairly weighed and considered, he ventured to believe, with confidence, that the judgment of the profession would be given in favour of the principles he had affirmed, and the conclusions he had arrived at.—*Lancet*, March 19, 1853.

EPIDEMICS.

49. *Smallpox*.—The epidemic smallpox, which visited England in the early part of the year 1852, was at least as severe in its character, as malignant in its contagious tendency, and as fatal to its victims as any variolous epidemic with which this country has ever been visited. The visitation commenced in the last quarter of 1851, advanced rapidly until the termination of the year, and continued its fatal career till the end of July, 1852, when it began to decline, with steady rapidity, till December, during which month there were only 14 deaths; the monthly average during the last twelve years being 74. The following table is constructed from the weekly reports of the Registrar-General as regards the mortality from smallpox in the metropolitan districts:—

DEATHS FROM SMALLPOX.

From 1840 to 1851, the average deaths from smallpox were about	891 per annum.
In the last quarter of 1851, there were 339 deaths; rate	1356 “
In the first quarter of 1852, 389 deaths; rate	1556 “
In the second quarter of 1852, 472 deaths; rate	1888 “
In the third quarter of 1852, 221 deaths; rate	884 “
In the fourth quarter of 1852, 74 deaths; rate	296 “

The present average is therefore four times less than the average of the preceding eleven years. The disease has, however, broken out with great severity in South Wales, where an epidemic of very fatal character has been raging, particularly in the iron districts, for the last three months. It has likewise been very fatal in the West of England, especially at Bristol, where it has assumed a peculiar and somewhat novel character; the type being malignant and confluent, and the pustules running into putrid masses with unwonted rapidity. Mr. Stansbury is of opinion that the disease is, of Irish introduction, as the first case which came under his notice he could trace directly from Ireland.

Smallpox is essentially a pustular affection; and it is remarkable that it should have immediately succeeded the prevalence of the furunculoid epidemic. The deaths from carbuncle attained their greatest number in the *first* quarter of 1852, in which there were 16 deaths from that disease, or a rate of 64 per annum, the average being $4\frac{1}{2}$; and the deaths from smallpox, in the *second* quarter of 1852, were 472, the rate being 1888 per annum; the average being about 792. It becomes a question of interest, therefore, whether a general tendency to pustular formations may not have had some common influence in producing both epidemics. During the year 1852, there were more cases admitted into the smallpox hospital than in any former period since its original establishment; and the fatality has been equally extraordinary. The corymbose and hemorrhagic forms of the disease, both of them at all times almost uniformly fatal, have prominently marked its course. It is also worthy of remark that, almost immediately preceding its outbreak in Europe, the Indian Presidency of Bengal was visited with one of those awful variolous epidemics which have devastated that “city of palaces” on several occasions during the last half century. The visitation of 1849–50 was so fatal in Calcutta, that, notwithstanding the proverbial apathy of the inhabitants (who have, as a body, rejected the protection of vaccination), yet on this occasion a general panic of so unusual an order seized on the inhabitants, that government appointed a special commission to inquire into the nature of the epidemic. The report of these commissioners has been transmitted to the Epidemiological Society; and it appears that during the years 1849–50, among the native inhabitants, the deaths from smallpox actually amounted to 4,467, the total deaths from all diseases being 9,530; in other words, the deaths from smallpox alone were 46.86 in 100 deaths. In the following year, the disease visited Europe; thus travelling, like the cholera, from east to west.—*Assoc. Med. Journ.* Feb. 18, 1853.

50. *Scarlatina*.—The more common epidemics have been observed, from time immemorial, to follow hard upon each other's footsteps. It has been shown that the late variolous epidemic attained its height in the metropolitan districts in the second quarter of 1852; that it declined in the third quarter of that year; and in the fourth quarter diminished to an amount far below its average. Now, by comparing the following tables, it will be seen that no sooner had smallpox begun to decline, than another epidemic, scarlatina, began to manifest itself, and observed a rapidity in its *advance* remarkably proportioned to the rapidity of the *decline* of smallpox.

SMALLPOX. Annual average, 840. 1852.		SCARLATINA. Annual average, 1794. 1852.	
1st quarter, deaths . . .	389	1st quarter, deaths . . .	366
2d quarter, " . . .	472	2d quarter, " . . .	563
3d quarter, " . . .	221	3d quarter, " . . .	668
4th quarter, " . . .	74	4th quarter, " . . .	952
1st six months . . .	861	1st six months . . .	929
2d six months . . .	295	2d six months . . .	1,620
Total deaths in 1852 . . .	1,156	Total deaths in 1852 . . .	2,549

Thus it appears that while both of these epidemics exceeded their usual average in the year 1852, by about one-third, the actual excess in smallpox was observable in the first six months only; while the excess in scarlatina occurred in the second six months only; and that the excess of each, in its own epidemic half of the year, was about double the average half-yearly number; the smallpox cases being rather *more* than double, the scarlatina cases rather *less* than double the average of six months.

It can scarcely be doubted that amidst the general darkness and mystery in which the causes of epidemics are involved, a ray of light might be struck out, if, with the aid of general registration, the future history of different epidemics, especially with regard to their *relative* rise, progress, and decline could thus be accurately traced and systematically recorded. We doubt not that the zealous members of the Epidemiological Society will ultimately have their attention drawn to these interesting points. Meanwhile, we earnestly call upon the members of our Association to avail themselves of their local opportunities, each in his own sphere, of noting, recording, and tabulating corresponding facts.

In the preceding sketch of the epidemics of 1852, as regards the metropolitan districts, we have purposely abstained from all reference to the influence of vaccination in protecting the population against smallpox, because we are looking with eager expectation to the forthcoming report of the Smallpox and Vaccination Committee of the Epidemiological Society, which, we trust, will set most of the vexed questions connected with vaccination at rest. But, lest the late variolous visitation should lead any of our readers to erroneous conclusions as to the general failure of Jenner's discovery, in its protective power over the population at large, we can only entreat them to wait until the whole subject has been brought before them in all its details, and in its momentous bearings upon the prospects of this country and the world at large, in regard to the possibility of being better prepared to meet any future outbreak of this terrible disease.

There is one interesting fact disclosed in the quarterly return just published by the Registrar-General, viz., that while the metropolitan mortality has been considerably below the average, as likewise the mortality in the provincial towns, the mortality of the provinces generally was above the average. This may be accounted for, if we recollect that a very rainy season, while it will augment the general tendency to disease, will also, by washing out the drains of large cities, tend to diminish the rate of mortality arising at all seasons from this very fruitful source of disease and death. It is also reasonable to attribute the superior salubrity of the town districts to the energy with which, in some localities, the new Sanitary Act has been enforced under the direction of the Board of Health.—*Ass. Med. Journ.* Feb. 18, 1853.

51. *Measles*.—This disease is at present very prevalent in London and some of the suburbs. The epidemic is of a mild character; but, from the severity of the season, the children of the poor frequently have a tedious and imperfect convalescence. The eruption is in general very profuse, and the fever slight.—*Ass. Med. Journ.* Feb. 18, 1853.

52. *Furunculoid Epidemic; Appearance of Acute Pemphigus*.—The epidemic of carbuncles is still raging in London, and has been more fatal during the last month than at any previous period, except in the month of September last year, in which were registered 10 deaths. In January, 1853, 9 deaths were registered, three of which occurred in the last week of the month. In one of these, the patient, a lady of 39, survived with a succession of carbuncles for five months, during the last five weeks of which they became complicated with whitlows and abscesses, under which she sank. In several instances, the disease has of late commenced with vesications; and it is also remarkable that two or more deaths have recently occurred from *pemphigus*, which, in its acute form, is extremely rare in this country. In its malignant form, it is a horrible disease, more dangerous than smallpox, and quite as repulsive and distressing. The type is low, and the serum in the vesicles speedily assumes a putrid condition, and exhibits a dark colour. The pulse is frequent and feeble, and the mucous membranes often participate in the disease, and discharge an offensive muco-purulent fluid.—*Ibid.*

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

53. *Drowning. Is there a fixed Period at which a drowned Body will float? If not, what are the Circumstances that chiefly control its early or prolonged rising to the Surface?*—I am indebted for the following case to the kindness of the Hon. WILLIAM B. WRIGHT, one of the judges of the Supreme Court of this State, who tried it at the circuit held in this city last winter. It contains what may be called the *medico-legal testimony* only, and I submit it in the hope that the main inquiry may receive some attention from medical gentlemen residing in cities and towns where drowning frequently occurs, as to its statistics:—

Voltan and Adams vs. The National Loan Fund Life Assurance Company.

The action was brought by the plaintiffs, as assignees of this policy, to recover, on a policy of insurance, issued by the defendants upon the life of one Conrad Shoemaker. The insurance was for \$10,000, and the policy was issued on the 15th of May, 1850. The premium on the policy was payable quarterly in advance.

On the 23d of August, 1850, Shoemaker paid the premium for the quarter ending on the 15th of November, 1850. On the 4th of September, 1850, the plaintiffs alleged that Shoemaker was drowned, while on a fishing excursion, with one Ottman, a German, in the waters of the bay of New York, about opposite to Hoboken, and nearest to the New Jersey shore. The theory of the defence substantially was, that Voltan, Martin, and Shoemaker (Germans) had entered into a conspiracy to defraud the insurance company, by causing an insurance to be effected for a large amount on the life of Shoemaker, and subsequently secreting and disposing of him.

To obtain a recovery, of course, it was necessary that the plaintiffs should satisfy the jury of the death of Shoemaker. This they attempted to do; 1st., by the testimony of Ottman, who swore to the circumstances of his drowning, and of the time and place, which was on the 4th of September, 1850, about dusk, in the Hudson River, opposite Hoboken, and near midway of the river. 2d. By showing that a body *found floating on the river* near Jersey City, on the 7th of September, 1850, was the body of Shoemaker.

This body was examined by the coroner of Jersey City, soon after being discovered. The skin was somewhat bleached, and the face disfigured; a part

of the lips being eaten off by crabs, lobsters, or fish of some kind. After examination, it was interred by direction of the coroner.

It was not attempted to identify this as the body of Shoemaker, except from some of the clothes found on it, and particularly the handkerchief on the neck. The handkerchief on the body was the half of a black silk one, with stripes, and cut from its mate diagonally. It was shown by a witness that Voltan, a short period before the alleged drowning, had purchased a handkerchief for his son, and at the suggestion of Voltan's daughter, it was cut in two, and half of it given to Shoemaker, after being hemmed by her; the other half to the son. The part retained by the son, and the part found on the neck of the body were exhibited in court and found to match in colour and stripes, and when laid together, formed a square, and although cut across the stripes, matched in the run and character of the stripes. The pantaloons were also shown to be of the same general character worn by Shoemaker, about the time of his alleged death.

To rebut the presumption that this was the body of Shoemaker, a number of witnesses were sworn on the part of the defence, with the view of showing that, as a general rule, bodies will not rise and float, even when the water is of the temperature that it is in the month of September, under from six to ten days. As Shoemaker was alleged to have been drowned on the 4th of September, the body was found floating on the 7th of September, three days afterwards; if it were universally true that bodies do not float until decomposition takes place, in the waters of the Hudson, under from six to ten days, then this could not be the body of Shoemaker.

The first witness sworn on the subject was *Dr. Barent P. Staats*. He testified that he had had occasion, in the course of his professional reading, to examine the subject as to how long a body will remain in the water before rising and floating. That it depends on the time of year, and the temperature of the water, and the size and make of the man. When the temperature is 65°, he did not think any body would rise in from less than seven to ten days. On his cross-examination, he said he did not know that he could point out any book that he had consulted.

Dr. Benj. Budd was the next witness called. He testified that he was assistant coroner in New York—has had occasion to see many drowned bodies—some one hundred and fifty. Never knew a body to rise in less than six days, unless some mechanical means were used to raise it. Should judge the body found at Jersey City to have been in the water from ten to twenty days. Has never known a body to be in the water less than seven days that was mutilated by fishes. Bodies that have been hooked up in three, four or five days, have not that peculiar bleached appearance as those present that come up from seven to ten days. The body will not rise until decomposition has commenced. He is twenty-five years of age, and has only studied the book of experience.

Dr. Seth Geer was then called. He testified that he was coroner in New York for eighteen months, during which time he had examined between three and four hundred drowned bodies. The general rule as to the rising of drowned bodies in the harbour of New York, is from eight to ten days. In his judgment, from the description given, the body found at Jersey City, had been in the water two or three weeks. Never knew a body that had been in the water but three days, mutilated by fishes. The hotter the water, the sooner the body would bleach.

Andrew Blakelley was then called. He testified that he was deputy coroner in New York a little over two years, during which time he examined rising two hundred and fifty drowned bodies. Drowned bodies would rise in the summer months on an average of from six to ten days, as he found out by experience. He did not remember any case of rising when the body had been in the water but three days. He never saw a drowned body that had laid in the water but three days eaten by fishes. On his cross-examination, he stated that he had never read any medical book on the subject, nor did he know, except from testimony taken as coroner, of a body lying under water seven days. It takes a body from six to eight or ten days to get bleached. He means by

bleaching, a soaking of the body—a general softening and whitening of the body.

Henry C. Van Wie was called on the part of the plaintiffs. He testified that he was coroner of the County of Albany for four years. Has held a good many inquests on drowned bodies. Has known two or three instances where the bodies have risen in three or four days. In warm or sultry weather, they will rise in from three to four days. They will bleach out directly in warm weather. They will be mutilated by fishes directly after decomposition takes place. Remembers an instance of holding an inquest on a body that drifted ashore and had been drowned four, five, or six days. (This witness related the startling fact of holding, in one season, inquests on fifteen infants under three months' old, found floating in cigar-boxes near the city of Albany—cases doubtless of infanticide.)

Henry C. Allen, called for the plaintiffs. He testified that he had been coroner of Albany County for twelve or fourteen years. He never could make up his mind as to any definite time that a body would remain under water. He knew an instance of a girl of fourteen years of age, who was drowned on Friday at 12 o'clock, and floated on Sunday at 12 o'clock. She was drowned at Greenbush Ferry. Has known instances of bodies rising in five or six days. Sometimes sooner. Knew of one man by the name of Moreton, who floated on the fourth or fifth day. The girl spoken of had turned a dark livid colour. Females float sooner than males.

George E. Cutler called by plaintiffs. He testified that he was coroner of Jersey City. He knew of the case of a young man who was drowned on Sunday, about 7 or 8 o'clock in the morning, and on Tuesday or Wednesday succeeding, about 11 o'clock, he was found floating about two miles from the place where he was drowned. He knew of a female by the name of Smith, who was seen alive on Wednesday evening, about 7 o'clock; on Wednesday, about 4 o'clock P. M., he was called to view the body floating. A person of temperate habits will bleach very quick; those who have been inveterate drinkers never will bleach.

John Osborn called by plaintiffs. He testified that he was coroner of Albany County three years. Had occasion frequently to reclaim drowned bodies. Had known bodies to come up in two days, others not in several months. Had a case of an Irish girl. She had been drowned some two or three days; it might have been four. Had another case of a man, McCarregan, an Irish auctioneer, who rose in four or five days.

Silas M. Benton, called for plaintiffs. He testified that he was acting coroner in 1847, 1848, and 1849, in New Haven County (Conn.). He knew a case of a person, whom he saw on Friday, was missed on Saturday, and found floating in the water on Sunday. The man was a German, and a baker by trade.

The verdict of the jury was in favour of the plaintiffs.

T. R. B.

54. *Permanency of Tattooing. Can Tattooing Marks be effaced during Life?*—The following case has excited great attention in Berlin; it is related by Dr. CASPER:—

September 10, 1849.—Some peasants found, on the bank of a rivulet which flowed into the Spree, the body of a man whose head had been detached by an incision carried between the first and second dorsal vertebræ. It had been so much disfigured by the assassins that recognition was impossible. Near the body was a small cane, a hat, and a box of allametes; some of the clothes were remaining on the trunk.

The day following, two physicians drew up an unsatisfactory and imperfect report. They found the signs of incipient putrefaction, *but post-mortem stains* nowhere existed. Both of these witnesses declared at the final hearing of the case, in answer to repeated questioning, that *cupping marks*, had such existed, might have possibly escaped their attention, but certainly not *tattooed marks*, which must have attracted notice in the course of their protracted and careful examination.

A girl came forward and stated that, from the accounts stated in the Berlin newspapers, she felt sure that the deceased was her husband. The clothing

was recognized by her. Finally, the body was disinterred, and the woman recognized it positively (by the external organs of generation, among other marks), as the body of her husband. The result of inquiries, which were immediately and most carefully made, proved that she was a prostitute, and had never been married in her life. It was not made perfectly clear whether this woman was of weak intellect or a cunning deceiver, perhaps interested in the profits of the robbery and murder. This incident was and remains an episode in the fearful drama.

Other researches led to the supposition that the assassin was an unknown individual, but of desperate character, and who was a cattle-dealer named Gottlieb Ebermann. This suspicion did not gain force. On the contrary, the accumulation of additional evidence substituted for it the exceeding probability that Ebermann was himself the murdered man. It was said of him that he might be recognized by traces of the cupping scarification on the wrists, and tattoo marks of a heart, and of the initials "G. E." on the left arm, both of which points of identification were asserted by the very surgeons who had bled him. But Ebermann's sisters and wife stated that they knew nothing of such marks; consequently, there was a second exhumation, five months after death, but no traces were found on the body. The wife's testimony was not considered important, as she had been only recently married and much separated from her husband. Still, she asserted that very lately she must have observed any such marks, for that her husband was both a poacher and a highwayman; that she helped him to clean his arms, and used to turn back and bind up his shirt-sleeves preparatory to this occupation. The medical report bore, that "decomposition was already too far advanced to permit cupping or tattooing marks to be made out on the body, and that none such were visible."

Meanwhile, a report spread that Ebermann was still alive. A witness came forward and told, with much simplicity, how he had gone to see Ebermann, had spoken to him, but without obtaining any answer. But it soon turned out that this was a monomaniac, a *ghost-seer*, who also deposed to having seen and conversed with another person, at whose funeral he had actually assisted. This (it is remarked) was a new episode.

Lastly, a mistress of Ebermann's was summoned as a witness, and she stated, positively, that a little cane found near the body belonged to a man of small stature, once a postilion, now a brigand, named Schall, and that the long stick found with other property of Ebermann, in Schall's house, was the stick of her deceased paramour. She had farther recognized all the articles of clothing found on the body as Ebermann's; and, in the prosecution of the inquiry, added that his teeth were so unusually broad and long that she could recognize them if placed before her. This led to a third exhumation, and this female now recognized, in the most positive manner, the teeth in the lower jaw, which were perfectly entire, as also what remained of the reddish beard which was attached to the denuded jaw bone, as belonging to her paramour. The wife also recognized, with distinctness, the different pieces of clothing, and also the wedding-ring, which had initials marked on it.

The trial, which seems to have been adjourned from time to time, was now proceeding, and, in particular, for the purpose of obtaining the opinion of Dr. Casper, whether *tattoo marks, seen upon Ebermann's body by competent witnesses, could by possibility become effaced by time.*

The process of tattooing, he observed, is usually accomplished by means of three or four sewing-needles stuck into a cork or piece of wood and turned up at the point, which are deeply bored into the skin on which the intended pattern has been traced. When the bleeding from the small punctured wounds has subsided, some coloured stuff is rubbed into the recent wounds, consisting usually of cinnabar or gunpowder, or generally of both; rarely of China ink.

The common opinion is, that these cannot be effaced during life. Dr. Casper instituted an inquiry at the Invalid Establishment, of Berlin, among the old tattooed soldiers, and with the following results: Out of thirty-six examples, the marks had become faint with time in three; the marks were partially effaced in two, and they were completely obliterated in four. He, therefore, came to the conclusion that the *marks of tattooing can disappear*; and, hence, that the

important doubt as to the identity of the body of the murdered man was removed.

It is not necessary to state the remaining facts considered on the trial, except that Schall was found guilty and executed.

The *Medical Times and Gazette* (December 11, 1852), after stating the facts of the case, adds the following:—

"In *L'Union Medicale*, November 16, 1852, Dr. Chereau justly observes, respecting Casper's report, that it is not one which should influence a judicial decision; for it is not stated at what age, with what substance, and in what manner, the marks were produced in the four instances where there was complete obliteration. Are the men to be trusted? How many years elapsed before the marks became effaced? This question cannot be considered as in any way satisfactorily settled as it now stands; indeed, Casper's assertions tend to raise doubts which heretofore did not exist upon a point which might be most important in a prisoner's favour, viz., the persistence of these stains. There is evidence that the absorbent glands in the neighbourhood of a tattoo mark become filled with pigment. At the time of writing this, there is in the dissecting-rooms, attached to St. Bartholomew's Hospital, the body of a native of one of the Islands of the Eastern Archipelago, whose skin has been ornamented to an extent but rarely seen. The whole back, from the sacrum to the shoulder, is covered with circles, radiating stars, and feathers; the arms and the thighs are both marked, but the front of the body is comparatively clear. The absorbent glands in the groin and about the axilla were of deep black hue; those in the neck of the ordinary white colour. Mr. Coote, the demonstrator of anatomy, succeeded in dissecting out some absorbent vessels leading to the glands in the thigh, filled with black pigment in long streaks. These indications of the action of the absorbents were, however, few, and the tattoo marks existed everywhere with as much clearness, apparently, as at the time when they were first made."

"A similar remark may be offered respecting the possibility of the disappearance of cicatrices. If there have been a complete loss or division of integument in its whole thickness, the mark remains obvious till decomposition after death destroys the lesions. If the skin be only partially destroyed, there exists a cicatrix of a different kind; one much more resembling the natural structure of the skin, unattended with contractions, and capable of becoming very faint and liable to be overlooked, except upon close examination. We have no hesitation in expressing our opinion, that Casper's report does not tend in any way to invalidate the statement which has hitherto been received in courts of law: namely, that tattoo marks and cicatrices are indelible.—*Monthly Journal of Medicine*, September, 1852, *Medical Times and Gazette*, December, 1852.

T. R. B.

55. *On the Errors that may result in Forensic Chemistry from the Discoloration of Liquids containing Poisonous Substances by Charcoal.*—M. BONNEMAINS gives the following as the result of his experiments and observations on this subject:—

1. Charcoal removes from their solutions a large number of metallic salts; and hence, if we are searching for these in the liquid, it should not be employed.

2. But, if used, we must not look for the poisonous substance in the liquid, but in the charcoal, or in the ashes obtained by burning the charcoal. When volatile metals are sought for, the charcoal only should be examined. The burning of it may dissipate the metal.

3. The omission to notice this is too common, in modern works, and may often mislead the inexperienced experimenter.—*Comptes Rendus*, January 17, 1853.

In a subsequent communication, Gaultiez De Claubry, while recognizing the truth of the fact, denies the originality of it with M. Bonnemains. In his work entitled *Elementary Treatise on Forensic Chemistry*, published several years since, he especially pointed out this source of error; and, again, in the last edition, particularly under the head of "*Animal Black*."—*Ibid.* January 31, 1853.

T. R. B.

56. *M. ORFILA*.—The most important event occurring at the meeting of the Academy of Medicine, has been a communication made by *M. Orfila*, on the subject of a prize which he desires to found for the best essay on the subject of Legal Medicine. It was in the following words:—

"I have received from the Academy many marks of its esteem and sympathy, and which I shall always gratefully remember. I desire this day to give a proof of my gratitude in founding a prize of 2000 francs, to be adjudged every two years, and for the first time in 1855; and for this purpose I place at the disposition of the Academy certain stocks which yield annually 1000 francs.

"The prizes to be awarded in 1855 and 1857, are to be for essays on certain designated subjects in toxicology, and that for 1859, on some subject taken from the other branches of legal medicine. In 1861 and 1863, a subject on toxicology is again to be selected, and, in 1865, one from the other branches of legal medicine. This order is to be steadily pursued. During a period of six years the subject of the prize is to be taken from toxicology twice, whilst the remaining one may be on some other subject of legal medicine, anatomical, physiological, medical, surgical, or obstetrical. This order may, however, be departed from under circumstances which I shall presently indicate.

"If, after 1901, the Academy shall be of opinion that subjects, to be hereafter indicated in the second category, may, with advantage, be substituted for those taken from the remaining branches of legal medicine, it shall be at liberty to do so.

"The prize of 2000 francs shall never be divided. If it be not awarded, the same question shall be again proposed, and the prize then shall be 4000 francs; if not then awarded, the question shall be proposed a third time, and the prize be 6000 francs. And if, in spite of these adjournments, the prize still be not awarded, the total 6000 francs shall be transferred to the Treasury of the Association of Physicians of the Department of the Seine, which I founded in 1833.

"This renewal of the same question must necessarily produce a modification of the order in which they are to be offered. Thus the continuance of the toxicological subject, for six years, will cause the omission of the medico-legal one for one period only, whilst the continuance of the medico-legal one for four years will cause the omission of the others for one term also.

"The commission to adjudge the prize in toxicology shall consist of five members, of whom two shall be taken from the section of chemistry, one from that of pharmacy, one from that of external pathology, and one from that of legal medicine. When the prize, on subjects taken from the remaining branches of legal medicine, is to be awarded, the commission shall consist of two members taken from the section of legal medicine, two from the sections of surgery, and one from that of anatomy. But, if the subject be an obstetrical one, two members from that section shall be substituted for those from the surgical sections. For all other subjects, except those of toxicology and legal medicine, the Academy shall select a commission of five members from its own body.

"Permit me now to indicate a certain number of questions on toxicology, which I desire shall be proposed very much in the order in which they are put down. They consist of two categories:—

"*First Category*.—Researches on chloroform, mushrooms, cantharidine, and cantharides; codeine, hyosciamine, and henbane; aconitine, and aconite; veratrine, sabadilline, black hellebore, and white hellebore; on atropine and atropa belladonna; on daturine and datura stramonium; on digitaline and digitalis; on Nerium Oleander; on strychnia, buccine, and nux vomica; on piccotoxine and cocculus indicus, and on the venom of the viper.

"Each of the questions should be examined in its relations to physiology, pathology, pathological anatomy, therapeutics, and legal medicine. For example, what becomes of these poisons after they have been absorbed? in what organs do they sojourn? at what time are they eliminated, and through what outlets? what disorders do they produce in the functions? what are the symptoms and organic lesions that they cause? what is their action on the fluids of the animal economy, and, in particular, on the blood? what mode of treatment is preferable to combat their effects? finally, and this is the most important,

what course are we to pursue to detect the presence of these poisons *before death*, whether in the matters vomited or those passed by stool, or in the urine, and, indeed, in any excreted liquids as well as the blood. *After death*, the medico-legal examination for these poisons should extend to the digestive canal, the various organs, the urine, and the blood. The period after interment, beyond which it is not possible to detect these poisons, should also be ascertained.

"New experiments should be instituted as to the antidotes of mineral and vegetable poisons. For example, is it possible to follow these poisons into the blood and into the organs where they have been carried by absorption, by making use of a chemical agent which shall render them inert or much less active? If this be so, as I think, science will behold its domain usefully extended, since it is now restricted to encountering these poisons in the digestive canal, and obtains but trifling success only in those rare cases in which the antidote has been administered a *little time* after taking the poison.

"*Second Category.*—There are still a series of questions which, in my view, are closely connected with toxicology, and which I should rejoice to have time allowed to elucidate. They are of a high order, extremely difficult to resolve, and should not be presented as subjects for prize essays until after most, at least, of these in the first category have been successfully studied, and experimenters have surmounted the obstacles that they will have to encounter in detecting organic, vegetable, and animal principles.

"My ideas, Mr. President, on this point, are the following: I have taught for thirty years, in my course of lectures, that intermittent and typhoid fevers, contagious eruptive phlegmasia, dysentery, puerperal peritonitis, cholera, diphtheritis, &c., are specific diseases, occasioned by a poison which is developed in the animal economy, or which is introduced from without through the respiratory passages to be ultimately mixed with the blood. I am so well satisfied of the truth of this assertion, that I do not hesitate to ask of the Academy to propose several questions on the subject for prize essays.

"Of course, researches on the problems of this category should include everything I have already noticed, as absorption, the symptoms, injuries of tissues, elimination, treatment, &c.

"If the candidates for the prize find it impossible to resolve these questions, still, their labours will be productive of real progress in knowledge. So much do I desire to encourage such investigations, that I make an exception to the general order in authorising the Academy to bestow, on the most successful persons in this inquiry, the sum of 1000 francs, or a gold medal of the same value. In such an event the prize, which otherwise would be 4000 or 6000 francs, shall not be more than 3000, 4000, or 5000 francs; depending, of course, on the number to whom the previous prize is awarded.

"If, after having proposed three or four questions under this category, the Academy shall be of opinion that the results do not reach my views, it shall be at liberty to propose other questions of a similar character, or to select them from the subject of *public hygiene*.

"Finally, when the questions now indicated have, in the opinion of the Academy, been exhausted, it shall designate such others as may seem proper."

This communication was received with applause, and the President, Berard, made a brief reply expressive of the gratitude and thanks of the Academy. A large number of members waited on M. Orfila after the meeting, to renew these, and a subscription was opened to procure a gold medal, to be presented to the *Ancien Deyen de la Faculté de Medecine*, as an enduring memorial of his great liberality.—*Journal de Medecine et Chirurgie*, February, 1853.

[*What a magnificent will and testament for the benefit of the human race is this.* To render it more impressive, his death soon followed.] T. R. B.

57. *Lucifer Matches. Phosphorus.*—By a decree of the local government of Erfurt, no persons are in future to be engaged in lucifer match manufactories who have imperfect or partially decayed teeth. It has been found that the phosphorus used in the manufacture acts on the decayed surface, and spreads to the bones of the jaw, which are in bad cases consumed. This disease is called the "kneckenfrass." All the workmen who have defects in the teeth are to be dismissed.—*Atlas* (London newspaper), Nov. 13, 1852.

ADDENDA TO MATERIA MEDICA AND PHARMACY.

58. *Anæsthetic Properties of the Lycoperdon Proteus—Common Puff-Ball.*—The number of the *Med. Times and Gazette*, for June 11, just received, contains an abstract of a paper read before the Medical Society of London, on the anæsthetic properties of the *Lycoperdon proteus*. The author's attention had been directed to the fact, that the smoke of the common puff-ball was used in the country for stupefying bees, and the idea struck him, that it would be worth while to ascertain if the same agent would produce narcotism in higher classes of animals. Several weeks since, he commenced a series of experiments with the fumes of the fungus, and had continued them to the present time. He found it possible to produce the most perfect anæsthesia with the fumes. His experiments had been made on dogs, cats, and rabbits, and had been witnessed by Drs. Wills, Crisp, Cormack, Snow, and several others. He had administered the narcotic fumes in the impure state, and in a clarified state obtained by passing them through a solution of caustic potass. When an animal was exposed to a large quantity of the narcotic vapour, the narcotism came on very speedily, and the insensibility was most decided, but recovery soon took place. Dr. Willis and Mr. Richardson had removed a large tumour from the abdomen of a dog that had been placed under the influence of the narcotic. No sign of pain was shown during the operation, and the animal did well afterwards. The fumes were obtained by burning the fungus. When a moderate quantity was inhaled slowly, the narcotism came on and passed off slowly, the animal exhibiting all the symptoms of intoxication, with convulsions, and sometimes vomiting. Several animals had been intentionally destroyed by the narcotic. It destroyed life slowly; a dog would often inhale the fumes for twenty minutes or half an hour, after being completely narcotized, previous to expiring. The heart's beat in all cases survived the respirations. The lungs after death were pale; there was no sign of congestion in any organ; the blood retained its red colour, but did not coagulate quickly; cadaveric rigidity set in in two or three hours. During recovery from a protracted narcotism, an animal would sometimes be quite conscious, but insensible to pain. Mr. Richardson had himself inhaled the clarified fumes of the fungus; they produced in him symptoms of intoxication and drowsiness, but he did not breathe them long enough to become completely narcotized. Mr. Richardson was able to afford but little information as to the nature of the narcotic agent contained in the fumes. Many of the fungi possessed narcotic properties, and had been supposed to possess an alkaloid resembling morphia; but the subject had never been thoroughly investigated. He should only say, concerning the narcotic principle contained in the puff-ball—1st. That it was of a most volatile nature; 2dly. That it was not absorbed by alcohol, water, or strong alkaline solution; 3dly. That if the fungus was burned in oxygen gas, the narcotic principles still remained in the fumes, and produced its effect, if free oxygen was breathed with it. The fungus had been given internally to two animals without effect. In Italy, it was fried and eaten as food. In conclusion, Mr. Richardson said, that he had been anxious only to show that a volatile narcotic principle, capable of causing anæsthesia by inhalation, did exist in one of the fungi; it remained to be seen whether other fungi possessed a similar principle, and whether from a fungus an anæsthetic could be obtained that might be used in practice, with as little trouble to the operator and with less danger to the patient than ether or chloroform.

Dr. Snow corroborated Mr. Richardson's observations, having witnessed several of his experiments. There could be no doubt that the fungus did possess a very volatile narcotic principle, capable of causing insensibility to pain. As yet, however, the narcotic was not so practicable as chloroform. The subject deserved and required farther research.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

A Remarkable Case of Malposition and Deficiency of the Thoracic and Abdominal Viscera in a Fœtus. By W. H. BYFORD, M. D., of Evansville, Indiana.

Mrs. M— was delivered, April 28, 1853, of her seventh child, which to all appearance was healthy and well formed. The movements of the limbs were vigorous and active, and continued for several minutes. Immediately after expulsion, it made two or three efforts to breathe in quick succession, and in doing so uttered a very feeble cry, which was not repeated. It then ceased all efforts of this kind for a minute, or more, when the attempt was renewed, but amounted merely to gaping, the mouth being opened and the tongue protruded. These motions were repeated, at irregular intervals, for about ten minutes, when they also ceased. In pressing upon the ribs, for the purpose of assisting the respiratory movements, I perceived the pulsation of the heart between the sixth and seventh ribs, on the right side, where very forcible impulse, exceeding that of a child two years old, convinced me that the heart was situated. When my attention was first drawn to the heart, the number of its pulsations were about natural. They soon, however, became less frequent, and at the same time more forcible for about half an hour, when they did not number more than about twenty in a minute. From this time, the pulsations gradually lost power, and grew more frequent until, just forty-five minutes from the time of its expulsion, they were no longer perceptible. The radial artery continued to vibrate for half an hour. After the struggles of the first few moments, all motions ceased, no convulsions or other irregular muscular movements occurred. But the muscles, by the time the heart ceased to beat, had become remarkably rigid, so as to resemble very closely rigor mortis. This rigidity yielded very readily to passive motion; but the limbs retained any given position, continuing raised, bent, or otherwise, as they were placed, refusing to yield to the influence of gravity, as is usual after the rigidity of death has been interrupted by forced movements. A deep purple colour, without turgidity, commenced at the extremities, and gradually overspread the whole surface, removable by pressure for several hours after death; and hence the body presented a spotted appearance of white and blue.

Examination, sixteen hours after death, conducted by Dr. John J. Walker, in presence of Drs. Finch and Parks. The whole external surface was of a dark purple colour, except upon parts subject to pressure, which were white; weight about seven pounds, length nineteen inches, proportions good, and not remarkable in any respect. Upon opening the thorax, it was found that the diaphragm was deficient throughout one-half of its usual extent, the left side leaving the thoracic and abdominal cavities continuous from the clavicle to the pelvis, on the left side of the body. The mediastinum occupied its normal position, and inclosed the right half of the chest. Within this cavity were contained both lungs, the heart, stomach, and spleen. The right lung occupied its usual position and relations, except that it was flattened back upon the posterior part of the chest. The three lobes were distinctly marked,

and it seemed altogether well formed. The left lung was situated anterior to the right, its large bronchia overlaying the right. It had the appearance of having been slightly dilated by air, while the other was not the least inflated. At its lower end, the heart, surrounded by the pericardium, was situated, the latter, to all appearance, bearing its ordinary relations to the former. The heart extended diagonally across the chest, its apex being upon the right side of the sternum opposite the sixth rib, its base directed toward the right shoulder. The left ventricle was upon its posterior superior aspect, the right below and before. This organ was distended with dark fluid blood. The aorta pursued a course toward the right scapula to near the first rib, where it suddenly curved across to the left side of the vertebral column, down which it continued its course. The stomach rested upon the diaphragm, in the right side of the thorax, its large extremity in contact with the middle of the right ribs, its smaller extending to the mediastinum behind the heart. At this point, the diaphragm was perforated by the duodenum, which passed behind the liver until it gained the inferior surface of this organ, whence it curved to the left and ascended into the costal cavity, on the left side (for it could not be called the thorax), to join the jejunum, which was about all contained above the place that ought to have been occupied by the left half of the diaphragm. From the jejunum, the illium passed downward, from left to right, to the iliac fossa to the commencement of the colon. This last organ on the left ascended to the clavicle. To the large extremity of the stomach was attached the spleen, which was remarkably thin and fragile, and deeply coloured with the dark purple hue which pervaded the surface. The liver was very large, its right lobe occupying its usual position in the right hypochondrium, while the left, long and large, formed an acute angle to it around the point of junction of the half diaphragm and mediastinum, and extended upward to the clavicle on the left side, in contact in front with the sternum and ribs posterior, and to the left of this were a part of the intestines.

Case of Pelvic Abscess, after Delivery. By HATTERSLY P. WORTHINGTON, Laurel Factory, Md.

Mrs. J——, attacked with labour-pains, with her fifth conception, attended with pretty free hemorrhage, on March 1, 1853, in the evening. The pains and hemorrhage, with some trifling intermission, continued until the evening of the 3d, when she was delivered of twins, which survived but a few hours. Had no medical attendant during her labour. On the morning of the 5th, she arose and attempted to dress herself, but was compelled to return to her bed; suffering severe pain in the left iliac region.

On the afternoon of the 6th, I was called to see her. Complained of severe pain in the left iliac region, with inability of motion in the corresponding leg; any motion of right leg, or of the lower part of the body, aggravating the pain. Considerable tympanitis, with tenderness upon pressure of the region indicated; lochia, slightly diminished in quantity; of healthy appearance; tongue furred, with trifling increase of redness of edges and tip; moderate thirst; bowels not evacuated since delivery; pulse 126, and small; restless and sleepless. Gave cathartic dose of calomel, with camphor, followed in six hours by castor-oil; calomel and camphor, each gr. ij every four hours. Rubbed the lower part of the abdomen with ol. terebinth., and applied emollient cataplasms.

7th, 10 A. M.—Easier; two rather copious stools during the night; tympanitis much diminished; thirst less urgent; pulse 110, and small. Continue the calomel and camphor every six hours, and the poultices and turpentine; Dover's powder, 10 grs. at night.

8th, half-past 10 A. M.—Slept a few hours last night; tympanitis entirely disappeared; no unusual thirst; pulse 106; could move both legs, though with increase of pain; pain in the bladder, upon micturition. Continue poultices and turpentine; give calomel, grs. 2, Dover's powder, grs. 5, every six hours; diluent drinks.

10th, quarter past 9 A. M.—Pain in the iliac region scarcely felt, except upon motion; there is a sense of distension "feeling, as if the (pelvic) bones were loosened;" sleeps badly; sleep attended with *perspiration*; lochia suppressed; milk secreted scantily for the first time last night; pulse 108, small; tongue clean and moist; desires food. Rub the lower abdomen with ol. terebinthina; give chicken broth freely; Dover's powder, 10 grs. at night.

12th, 11 A. M.—In the night of the 10th, with a sudden stool, discharged a quantity of pus, which has continued to flow in small quantity since. Sense of soreness and fulness much relieved; no pelvic pain, except upon extension of the left thigh; pressure above the pelvis does not produce pain; sweats much diminished; tongue clean and moist, and appetite increased; pulse 108; lochia suppressed; milk increased. Gave opium, gr. $\frac{1}{2}$, pulv. antimon. grs. 5, every six hours; infusion of *prunus virginiana*, 2 fl. oz. every six hours. Chicken broth and soft-boiled eggs.

14th.—The discharge of pus continues; still some pain upon extension of thigh; sleeps little; skin cool; tongue clean; appetite good; bowels evacuated once daily; pulse 112, and feeble. Take more generous diet, with porter, and continue the infus. prur. virgin. Dover's powder at night.

16th.—Quantity of pus much lessened; pain greatly diminished; had slept well the two preceding nights; pulse 106. Take ferri et soda chlorid. 5 grs. every six hours; continue a generous diet, with porter.

22d.—By this time, all unpleasant symptoms except debility had disappeared, and under the use of tonics and a nutritious diet the patient has been restored to her usual health.

I have had, within the past year, a case of severe pelvic abscess in a male subject under treatment, and, as it possesses much interest, I shall prepare a report of it for future publication.

Inability to swallow in an Infant. By J. L. PEIRCE, M. D., of Bucks Co. Pa.—On the 18th of December, 1839, I was called to Mrs. James, living nearly opposite the Preston Retreat, who was in labour with her eighth child.

At 11 o'clock A. M. she was delivered of a fine large infant weighing ten pounds. I discovered at birth a tumour on the right epigastrium, extending about a quarter of an inch to the left side of the ensiform cartilage, and its upper edge just below the cartilage of the ribs. It was about one and a half inches in diameter and nearly circular. No other extraordinary appearance was noticed. On visiting the patient the next morning, she informed me that the child had not taken the breast, and on the succeeding morning the same observation was repeated, with the addition that he did not swallow. I then examined the tumour, and found its appearance nearly as at first, and felt confident that it was not connected with the internal organs, but was of the nature of a wen. I noticed a constant moaning of the child, which the mother informed me had succeeded to an incessant crying. There was a constant frothing at the mouth, which I regarded as the saliva which the child ought to have swallowed. With a teaspoon I made several attempts to cause him to swallow some water, but in vain.

On the afternoon of the third day Professor Hodge very kindly met me in consultation. He regarded the inability to swallow as connected with the

nervous system; founding his opinion chiefly upon a fulness of the brain at the anterior fontanelle. We concluded to direct nutritive injections to be made use of several times a day, and see what nature would do towards removing the difficulty. In accordance with this view I requested the nurse to make use of a couple of injections of warm water to cleanse out the bowels, and afterwards lamb broth to be used every three or four hours. On the succeeding day, I was informed that after using the second warm-water injection they applied the child to the breast, when they were surprised to find that the child was able to swallow. It took the breast freely. No farther inconvenience was afterwards experienced.

DOMESTIC SUMMARY.

Influence of Parasites in the Production of Disease.—[JOSEPH LEIDY, M. D., Professor of Anatomy in the University of Pennsylvania, in an interesting memoir (*A Flora and Fauna within Living Animals*), published in the *Smithsonian Contributions to Knowledge*, makes the following interesting remarks on this subject]:—

In many animals entozoa and entophyta are almost never absent, and probably when in their natural habitation, and few in number, or not of excessive size, are harmless, as observed by Dujardin in the introduction of his excellent work on Intestinal Worms: "Les helminthes se développent dans un site qui leur convient, sans nuire plus que les lichens sur l'écorce d'un arbre vigoureux. Ils ne peuvent devenir nuisibles, généralement, que par suite d'une multiplication excessive, laquelle semble alors être une des conséquences d'un affaiblissement provenant d'une tout autre cause, d'une mauvaise alimentation, du séjour dans un lieu froid et humide, etc.: sans cela, les helminthes naissent et meurent dans le corps de leurs hôtes, et peuvent paraître et disparaître alternativement sans inconvénients."

Many important diseases have been supposed to originate from parasitic animals and vegetables. The former are not the true entozoa, for these are too large, and may be detected by the naked eye, but they are considered to be animalculæ so small that they cannot be discovered even with the highest powers of the microscope. But, independent of the fact that the existence of such entities is a mere suspicion, none of the well-known animalculæ are poisonous. At various times, I have purposely swallowed large draughts of water containing myriads of *Monas*, *Vibrio*, *Euglenia*, *Volvox*, *Leucophrys*, *Paramecium*, *Vorticelli*, etc., without ever having perceived any subsequent effect.

The production of certain diseases, however, through the agency of entophyta, is no longer a subject of doubt; as in the case of Muscardine in the Silk-worm, the Mycoderm of *Porrigo favosa* in Man, etc.; but that malarial and epidemic fevers have their origin in cryptogamic vegetables or spores requires yet a single proof.¹ If such were the case, these minute vegetables and spores, conveyed through the air, and introduced into the body in respiration, could be detected. The minutest of all known living beings is the *Vibrio lineola* of Müller, measuring only the 36,000 of an inch, and the smallest known vegetable spore is very much larger than this, whilst particles of inorganic matter can be distinguished the 200,000 of an inch in size.

I have frequently examined the rains and dews of localities in which intermittents were epidemic upon the Schuylkill and Susquehanna Rivers, but without being able to detect animalculæ, spores, or even any solid particles whatever. I have examined the air itself for such bodies, by passing a current through clear water. This was done by means of a bottle, with two tubes passing through

¹ See an ingenious little work by my distinguished friend Dr. J. K. Mitchell, "On the Cryptogamous Origin of Malarious and Epidemic Fevers."

a cork stopper; one tube dipping into the water, the other reaching not quite to its surface. By sucking upon the latter tube, a current of air passed through the former, and was deprived in its course of any solid particles. Ordinarily, when the atmosphere was still, early in the morning, or in the evening, neither spores nor animalcules could be detected. When piles of decaying sticks or dry leaves were stirred up, or the dust was blown about by the wind, a host of most incongruous objects could be obtained from the air; none, however, which could be supposed capable of producing disease.

To assert, under these circumstances, that there are spores and animalculæ capable of giving rise to epidemics, but not discernible by any means at our command, is absurd; as it is only saying in other words that such spores and animalculæ are liquid and dissolved in the air, or in a condition of chemical solution. That the air may be poisoned by matters incapable of detection by the chemist, is proved by the emanations from such plants as the *Rhus vernix*, *Hippomane mancinella*, etc.

Microscopical Constituents of Black Vomit.—Three competent observers, Dr. A. CLARK,¹ of New York, Dr. MIDDLETON MICHEL,² of Charleston, and Dr. A. H. HASSALL,³ of London, have lately examined the microscopical characters of black vomit. Their observations coincide in important points, and as they are valuable in a pathological point of view, we shall give a full account of them.

Dr. A. CLARK examined a portion of black vomit, removed from the stomach of two persons who had died of yellow fever at the New York Hospital last winter, and the following is his account of the result of his examination:—

"The first of these specimens was not highly coloured. After standing for a few hours, it deposited a brown sediment, leaving the supernatant liquid a little milky, but nearly transparent. This fluid was acid, and appeared to derive its opaline hue from minute granules of organic matter—probably debris of the epithelial lining of the stomach—and minute particles of ingesta, and a few very minute oil-globules. The sedimentary matter, examined with a magnifying power of 400 diameters, was found to consist mostly of the epithelial lining of the stomach and its crypts (some cells of which were granular and breaking up, some in a normal state; some were separated, floating free; others were united in sheets of limited extent), and of a fine granular matter, which was probably the disintegration of epithelial cells. Besides this, there was a small amount of two kinds of colouring material, the one of a dark yellowish-brown, the other of nearly a jet black colour. These will be described hereafter. This specimen contained no fungoid growths, no animalculæ, and nothing that could be referred to the ingesta, except a few starch corpuscles, and a few globules of fat or oily matter. The fluid of this specimen was decidedly acid, and contained the merest trace of albumen.

"The second specimen was mostly sedimentary matter when it was brought to me. The colour of it was a dark brown, almost black. The small quantity of supernatant fluid was even more acid than the first, and was slightly albuminous. The sediment, examined in the same manner as the first, was found to contain, like the other, the epithelium of the stomach and its crypts, in three different forms: the conoidal cells of the lining membrane; a few cells from the larger sections of the crypts, of large size (that is 1250 to 1600 of an inch in diameter); and flat cells of smaller size (from $\frac{1}{2}$ to $\frac{1}{4}$ the former) from the diseased and minute divisions of the crypts. These bodies were seen sometimes in sheets of moderate extent, sometimes as individual cells. Many of them were granular, and a few of the larger flat cells contained oil-globules. The fine granular matter, so abundant in the first specimen, was seen also in this, but in smaller quantity, and probably should be referred to the same source, the disintegration of some of the cells.

"The substances that did not belong to the stomach tissue were the following:—

¹ New York Medical Times, May, 1853.

² Charleston Medical Journal, May, 1853.

³ Lancet, February, 1853.

"1st. What I am compelled to regard as blood-corpuscles. These were of a uniform dark yellowish-brown colour, and existed in great abundance, constituting from one-sixth to one-quarter of the mass. Their forms varied from the disk-shape to the globular. Some were isolated; but more were grouped. Some were no more than a third the size of the largest. Some were in the process of disintegration, and formed nebular spots of considerable size, mostly granular; yet in the midst of the granules were small globular and large disk-shaped bodies. But all had the same dark-brown colour, and it was easy to trace a regular gradation from the unquestionable disk-shaped blood-corpuscle, through the larger and smaller globular bodies, to the granular matter.

"2d. Numerous scales of opaque black matter, having no uniform shape, and susceptible of fracture in any direction. Regarding the nature of this substance, I am not prepared to express an opinion; but I can hardly doubt that it is the product of some chemical change in the colouring element of the blood. It was abundant in both these specimens, in the second constituting at least one-twelfth of the whole bulk of the sediment.

"This pigment matter is often met with in other pathological states of the system. It abounds in the "bronze liver" of remittent fever. It is occasionally seen in the urine; and it is frequently easy to trace gradations in its colour, from the dark brown of the corpuscles above described, to the jet black which usually distinguishes it. I am not aware that it has received a name, unless it should be considered a modification of *melanine* or *melanose*.

"To these two constituents must be ascribed the peculiar colour in both these specimens. And I cannot doubt that they are alike the result of sanguineous effusion from the lining membrane of the stomach.

"3d. There was a large quantity of a peculiar crystalline matter, sometimes in the form of a brush, but oftener flattened, as if spread by the weight of the glass cover, white in colour and nearly transparent. This, I suppose, is the product of digestion. It was found in both the specimens, and has been often seen in the materials removed from the stomachs of persons dying of other diseases.

"4th. A vegetable growth in linear and rather stout joints, the sections commonly separated, but often united, as by a hinge. This element was in great abundance in the second specimen, but was not seen in the first. It disappeared, however, entirely, after the lapse of three weeks, leaving only the substances described above."

Dr. MIDDLETON MICHEL has had numerous opportunities of examining the black vomit of yellow fever, and has elaborately investigated its microscopical characters during the prevalence of yellow fever as an epidemic in Charleston, last summer. He examined forty samples, under varied circumstances, in and out of the stomach and intestines, in the fresh and putrescent conditions, and under the influence of certain reagents.

The diversity of colour in the vomit is sufficiently striking, Dr. Michel says, to be particularly mentioned. "Though generally reddish-black, it often presented a brown, reddish, or blackish-brown, and sometimes claret colour. From a patient whom I saw with Dr. Hayne, which patient ejected large quantities and ultimately recovered, the liquid was bright red, recognizable as pure blood with black flocculi in the sediment, while one sample brought me by Dr. Pettigrew was of chocolate colour with a brownish residuum. Some obtained from my own patients resembled a strong infusion of senna, holding in suspension the ordinary black clots and granules; others, even in a state of rest, were more like a solution of bismuth and Indian-ink; some again were perfectly black, and these were such as I procured from the stomach most generally. The intensity of colour is much influenced by rest or motion, as it acquires a denser shade whenever the fluid is agitated, and the granules, flocculi, and coagula are made to float; on the contrary, these particles, when the liquid is at rest, settle at the bottom, being specifically heavier than the former, leaving the supernatant liquid comparatively clear, sometimes transparent as serum. This is not always the case, however, as I have seen the solid portions in the same sample equally divided into such as formed a sediment, and such as floated on the surface. The quantity which may be produced and ejected in a given time

materially affects the colour, this being of a brighter red whenever the fluid is thrown up in abundance until it frequently amounts to pure blood; whereas, the dark black and granular aspect, with the coffee-grounds sediment, described as characteristic of black vomit, belongs particularly to the smaller portions which are early vomited—a circumstance which claims special attention, as it will be found to account for the difficulty experienced in producing these exact particles in the artificial trials which we made with blood and acids, as well as for the occurrence of pure blood of the scarlet hue in many instances of hematemesis. It is proper to remark that there is rarely, if ever, any greenish or yellowish tinge observable, no evidence whatsoever of the presence of bile; and I believe this is the concurrent testimony of all who have taken the trouble to repeat Dr. Warren's tests."

If bile is ever met with in black vomit, it is, according to Dr. M., merely accidental.

These differences in colour, Dr. M. has found to depend upon admixture in varied proportions of the constituent parts.

In every instance Dr. M., as did Dr. Clark, found the vomit decidedly acid, turning litmus-paper red, and this acid, Dr. M. observes, "has been detected as free muriatic, which is present in gastric juice, according to recent investigation. The acid property of the vomit is most remarkable, for I made constant inquiries of those suffering from this symptom, and they frequently complained of an acid burning sensation in the throat and pit of the stomach, referable doubtless to its presence. The elimination of this acid seems to be without restriction, for in one case basin-full after basin-full was thrown up presenting the same reaction."

Dr. M. always found the filtered liquid perfectly transparent, with the exception of such amorphous granules as sometimes swim through serum itself. Some of the most minute specks selected from the coffee-grounds sediment presented under the microscope every resemblance to coagulated blood, appearing as so many dense opaque masses tinged darkly with hematin. Here and there were congeries of granules invested with the same colouring ingredients. Small portions, rendered less opaque by dilution, were found to consist of shreds or beds of mucus containing long numerous scales, granules, and some blood-disks. Epithelial cells were always found, and Dr. M. detected all the varieties of these cells except the ciliated. "The *scaly*, *columnar*, and *spheroidal*, have at different times been plainly made out with their nuclei and nucleoli, but in very different proportions—the scaly or lamellar cells being always most numerous. Many of these latter are seen as perfect in shape as when artificially removed from the mucous surfaces of the throat, gullet, or mouth, and frequently united by an adhesive intercellular matter in the order of the hexagons of a tessellated pavement, some presenting at their centres accurately defined nuclei, which the addition of a little diluted acetic acid rendered even more apparent. These are evidently shed from the mucous lining of the oesophagus, pharynx, back part of the fauces and mouth during the act of vomiting, and are stretched along so extensive a surface as at once to account for their frequency. The abrasion which these surfaces sustain results from the acidity of the matters vomited. But if carefully examined there is no sample which will not disclose the presence of the columnar epithelium of the gastric membrane.

An inspissated viscid form of mucus constitutes, according to Dr. M., a conspicuous feature of black vomit. "Condensed into glutinous masses, as it were by the action of the acid secretions, this substance was filled with granules, and the relics of epithelia, entangled with which it in a measure owed its consistency, and but for having imbibed a certain amount of blood, exactly resembled *fluor albus*, as seen with the microscope. The mucous globules bear no relation in point of numbers to the masses of this albuminoid ingredient, they were few and scattered about the field; presenting as they do generally a well-defined outline and a granular surface, these were conspicuously more translucent, and their contour less distinct, though the granular appearance was sufficiently evident in most cases. They were distended by the endosmotic imbibition of the aqueous solutions in which they appear. A strong mix-

ture of salt and water disturbed their transparency and diminished their size by corrugating them. The viscid mass is not composed of mucous globules, for where it exists in greatest abundance, in the stools, for example, these were wholly absent. When compressed into a thin layer, this mucoid mass appeared as a soft, homogeneous, granular, and filamentous structure, the shreds of which, matted together in an irregular manner, somewhat resembled fibrin, as it is seen to coagulate when microscopically inspected, or perhaps like albumen coagulated by acid.

"Blood, in a broken down and altered condition, is met with invariably in abundance; indeed, it is this which constitutes black vomit *par excellence*. Every object under the microscope is intensely coloured by it, as a large proportion of hematin appears to be in complete dissolution. It need hardly be remarked, that the blood-corpuscles are entirely separated from each other, and never seen in rolls or piles, and equally changed in their physical nature. We see no disks or but few turning edgewise while in motion. The vast majority are entirely dissolved, a granular detritus being all that remains even in the freshest condition. Some again are spheroidal, distended, or otherwise misshapen, most generally corrugated, measuring $\frac{5}{100}$ of an inch, undergoing exactly the same modifications as we produce at will by treating them with acetic, nitric, hydrochloric acids or concentrated saline solutions."

The following are Dr. Michel's conclusions:—

"1st. That the microscope has furnished decisive proof of the nature of that black matter formed within the entire length of the digestive canal; showing that it is blood chemically altered by the action of acids wherever it is seen, whether in or out of the vessels—the acids being hydrochloric when derived from the stomach, sulphuric acid of the sulphuretted hydrogen, or carbonic and lactic acids, when obtained throughout the remaining portions of the canal.

"2d. That the pasty and figured stools are composed of the black matters which have lost all of their characteristic features but the colour, having undergone a process of digestion.

"3d. That no animalculæ are discoverable in either fresh or putrescent black vomit; but as it decomposes certain fungi are disclosed, which are most frequently, if not always, developed outside of the body, depending upon, though not the cause of, fermentation.

"4th. That the artificial black matter produced by the addition of an acid to blood, is in every respect analogous to true black vomit, being both physically, chemically, and microscopically identical."

Mr. HASSALL has also examined microscopically black vomit (*Lancet*, Feb. 1853) from a person who died at Southampton of yellow fever. He saw in this matter "ramose branches of the sporules of a fungus," "large circular sporules," "branched and moniliform, threads of a fungus," and many compound cells having the appearance of *sporangia*. But he saw besides, "a vast number of irregular bodies, frequently of a brown colour, and resembling somewhat blood-disks shrivelled and discoloured, but insoluble in acetic acid;" also, "a multitude of molecular and amorphous masses of a brownish or blackish colour;" and he expresses his regret that he cannot determine the nature of the bodies resembling blood-corpuscles, "on which the colour to some extent depended." "It is possible," he adds, "that they are the sporules of a fungus; at all events, their insolubility in strong acetic acid is opposed to the opinion that they are altered blood-corpuscles." He is, therefore, of the opinion that the sporules may have existed in the stomach during life, and may have kept up the vomiting, as it is supposed the sporules of *sarcina ventriculi* may, under other circumstances. He therefore advises the administration of alkalies, and especially the sulphate of soda, in yellow fever.

The sporules of a fungus discovered by Mr. Hassall were probably accidental, as no such sporules were seen either by Dr. Clark or Dr. Michel. Mr. Hassall is disposed to regard "the dark-brown bodies somewhat resembling shrivelled and discoloured blood-disks as *sporules of a fungus*, because they are not soluble in acetic acid. Dr. Clark does not concur in this opinion, but regards them as nothing more or less than "shrivelled and discoloured blood-disks." They are not, he says, soluble in acetic acid, as the blood-corpuscles in their

normal condition appear to be; but the normal condition no longer exists in these bodies. The change of colour and of form is sufficient proof of this.

"Regarding the action of acetic acid on the blood," Dr. Clark remarks: "it is true that it renders the corpuscles transparent by the destruction of the hematin, and alters the shape of these bodies. But after protracted maceration in this reagent, the outline of the corpuscles can still be recognized with a good glass, and there are even some of them that can be seen with good distinctness, diminished in size, it is true, and usually globular. I do not confound the proper blood-corpuscles with those bodies in the blood which acetic acid breaks up into sections, or "nuclei," three or four, still contained within their cell-wall. These are seen when pure fresh blood is treated with this acid, in considerable numbers; but besides these, there are other cells, small and rounded, entirely distinct in their appearance from the fat-globules which the acid develops, and equally distinct from the lymph-corpuscles which undergo the change referred to above. These bodies can be regarded as nothing else than blood-corpuscles, in a state that enables them to resist the action of acetic acid more than others. But acetic acid does not completely dissolve the blood-corpuscles. It deprives them of their colouring matter, and reduces their refractive power so nearly to that of the fluid in which they float, that a good lens and close examination are required to see them, but they do not entirely disappear. If fresh corpuscles are first macerated in dilute hydrochloric acid, and then treated with acetic acid, it will be seen that the latter fluid does not dissolve them. It renders them less distinct; but the hydrochloric acid seems to have formed with the hematin a pale yellow colour, which the acetic acid cannot wholly remove. If, under other circumstances, the latter fluid has the power of dissolving the walls of the corpuscles, which I doubt, the cyst, charged as it is by the action of the stomach, is now able to resist its solvent properties.

"It is well known that when blood is discharged from the stomach it is apt to have a very dark colour. When discharged from the intestines, the same fact is noticeable, so that the name *melæna* was once common for the condition which produced such evacuations. It is not probable, then, that the gastric and intestinal fluids and gases, by chemical union with the hematin of the blood, alter its nature, and so render it insoluble in acetic acid? This seems to me the most ready explanation of the fact which has probably led Mr. Hassall into error."

Condition of the Secreting Cells of the Liver in Yellow Fever.—Dr. A. CLARK has examined the structure of the liver of a patient who had died of yellow fever. It had the usual yellow or *café au lait* colour. Its aspect did not differ very materially from that of the chronic fatty liver of drunkards. It was not, however, materially enlarged; and on close examination the lobules of Kiernan could still be distinguished on its surface and section, by the minute vessels which surround them.

"On microscopical examination, the only marked change demonstrated was a fatty state of all the secreting epithelial cells, and an abundance of free fat-globules of large and small size, covering and obscuring every thin section that was made of it. The whole tissue was thoroughly infiltrated with oily matter, and scarcely a cell could be seen that was not loaded with these globules. The condition of these cells was in all respects identical with that observed in ordinary cases of chronic fatty liver, and the examination suggested the inquiry whether the state of the liver in yellow fever should not be called *acute fatty degeneration*. Perhaps the organ in this instance may have been fatty before the attack of the fatal disease. Still, the observation is, I believe, worth recording, that those who have larger opportunities of studying the disease than I possess, may verify or correct it. I will not assume that a single case can demonstrate a general fact, but will propose the question for solution by our southern brethren: Is not the change so constantly observed in the liver of those dying of yellow fever, an *acute fatty degeneration*?"—*New York Medical Times*, May, 1853.

Pharyngeal Tumour extirpated.—Dr. L. A. DUGAS records (*Southern Med. and Surg. Journ.* May, 1853) the following case of fibrous tumour in the pharynx, which he successfully extirpated:—

Branch, a negro man about 35 years of age, the property of Mr. J. A. Smith, of Henry County, Ga., was placed under my charge early in February last. He first noticed, about three years before, a small tumour behind the soft palate, which he represented as being very hard and painless. From that time, it gradually increased in size, and was never painful, but rather inconvenient. I found the tumour filling the pharynx, extending upwards to the posterior nares, downwards as far as the larynx, and laterally from one tonsil to the other, forcing down the right one. The soft palate was carried forwards and downwards, so as to constitute a prominence the size of a large egg, to the posterior surface of which the tumour was attached. Deglutition was so difficult that he could take no solid food, his articulation was very indistinct, and respiration considerably impeded when he would walk briskly, causing him then to breathe loudly, and like a horse affected with the "bellows."

Believing the tumour to be fibrous, I proceeded, on the 10th of February, to its removal, as follows:—

Provided with actual cauteries, a syringe, sulphate of zinc, &c., to control the hemorrhage from the general surface and smaller vessels, I passed a ligature beneath the right carotid artery, and left it there, ready to be tied, should this become necessary. The patient was then seated in a chair, and an incision made from the right angle of the mouth to the masseter muscle, which necessitated the ligature of the facial artery. In the third stage of the operation, a longitudinal incision was made from the side of the uvula to the roof of the mouth, through the soft palate, which was then detached from the tumour in the form of flaps. The tumour now presented a white glistening aspect, and was adherent, posteriorly and laterally, to the adjacent parts by strong cellular tissue. Having free access to the parts, the cutting instruments were laid aside, and the mass was seized with strong tumour-forceps and drawn forwards, whilst my fingers were passed behind and tore asunder the attachments of the lower portion of the tumour. The fingers were then carried successively behind the left, the upper, and a part of the right portions of the mass, which was now removed. The entire mass thus extirpated constituted one distinct tumour; but there was still another left in the right side, apparently in intimate connection with and pressing down the tonsil with great force. It did not, like the former, present a white glistening surface to the eye, but was covered by a thin stratum of muscular fibres, derived from the pharyngeal muscles. Upon dividing this stratum with the knife, and pressing it aside, the tumour was found to be of the same character as the former, and it was likewise removed by the fingers and forceps, not, however, without much difficulty. It was found to be attached to the ramus of the lower jaw, near the sigmoid notch, to the pterygoid process of the sphenoid bone, and to the posterior aperture of the right nostril, and was brought away in separate fragments. Both tumours, when placed together, formed a mass about the size of a turkey's egg.

The patient bore this protracted and painful operation with wonderful fortitude. The amount of hemorrhage was smaller than could have been anticipated, but had to be checked occasionally by cold water thrown into the pharynx with a syringe. After allowing the patient to rest a little, the cheek was stitched and well brought together with adhesive strips. He was then put to bed with the wound of the neck partially closed, and the ligature was permitted to remain beneath the carotid until the following morning, as a precautionary measure.

The patient's recovery was unattended with any circumstance worthy of note. He did remarkably well, and would have been sent home in about a fortnight, had he not taken cold, which affected his bowels and induced considerable fever for eight or ten days more.

Will this disease return? Microscopic examination by Dr. Harriss showed the tumours to be purely fibrous—nothing indicative of malignancy could be detected in it. Time alone will decide the question.

Amputation at the Shoulder-Joint.—Prof. E. R. PEASLEE reports (*New York Journal of Medicine*, May, 1853), the case of a man, sixty-six years of age, in good health, who accidentally shot himself with a musket on the 11th of March, 1845. The charge (shot) entered on the inside of the right arm, just above the insertion of the deltoid, and passed obliquely backwards, upwards, and outwards, and emerged directly below the acromion process, shattering in its course about two inches in length of the os humeri. Above the shattered portion of the humerus, the head and about three-fourths of an inch of the shaft remained in place. The anterior, circumflex, and brachial arteries had been divided. When Dr. Peaslee saw the patient, three-quarters of an hour after the accident, he was in a state of collapse, about twenty ounces of blood had been lost, and the hemorrhage continued. The patient was more than half a mile from home, where it was necessary to convey him over a rough road. Soon after reaching home reaction commenced, and Dr. Peaslee amputated the arm at the shoulder-joint, with the assistance of Drs. Lincoln, Ellis, and J. B. Upham. Everything went on well until the ninth day after the operation, when the upper flap was attacked with erysipelas, which, subsequently, extended over the whole body *except the wound itself*. During the continuance of the erysipelas (ten days) the patient was supported on sulphate of quinia and beef broth, and common wheaten flour was applied over the inflamed surface alternately with a lotion containing a large portion of laudanum. After the disappearance of the erysipelas, the case again went on favourably, and fifty-four days after the operation he was able to walk out. The wound soon afterwards closed, and the patient remained in his usual health until the summer of 1851, when he died.

Removal of an Ovarian Tumour. Death.—Dr. G. M. BAYLESS, of Hazlewood, Mo., in a letter to Prof. Pope (*St. Louis. Med. and Surg. Journ.* May, 1853), relates a case of ovarian tumour, which he removed on the 15th of January last. The subject of the case was 20 years of age, delicate form, fair complexion, married, the mother of two children, the older seven, the younger five years of age. About four years ago, she began to enlarge, and was regarded as pregnant. When seen by Dr. B. in August last, her abdomen was very large. Dr. B. tapped her, as a means of diagnosis. Some four or five gallons of fluid were drawn off.

The general health of the patient at this time was tolerably good, and the tapping relieved the only difficulty; slight embarrassment of respiration; no inflammatory symptoms followed the tapping; but in six or seven weeks the fluid had reaccumulated. This was the only time she was tapped.¹

"Early in November, she took a severe cold, which prevented my operating at that time. By the middle of January, she had recovered from the cold, and her general health was pretty good. I considered the case a very favourable one for the operation. 1st. Because of the *spare, delicate* person, as less liable to have inflammation. 2d. The patient had been tapped but once, and the operator would probably not have extensive adhesions to encounter. The result proved the correctness of this latter expectation, and probably also of the former.

"The operation was commenced by tapping, for the purpose of reducing the size of the tumour. *Three gallons* of straw-coloured serum were drawn off. The patient suffered no exhaustion from this, and was at once placed on the table. She was put under the influence of chloroform, which acted well. The incision was carried from just below the umbilicus to within two inches of the pubis, and was six inches long. The tumour, upon which the abdominal walls retracted immediately after the tapping, presented itself at the opening, but so large as to require farther reduction in size before it could be brought through my opening, which I did not wish to enlarge. This reduction was effected by plunging the scalpel into several of the cysts and evacuating their contents. A gallon or more of fluid was in this way discharged. The tumour was now

¹ Repeated tappings tend greatly to embarrass the operation of extirpation, by causing adhesion of the tumours to the walls and organs. This is my experience in the former cases. My successful case was tapped seventeen times.

squeezed through the opening, and but two adhesions were found; *one*, a band of false membrane extended from the side of the fold of peritoneum that holds the sigmoid flexure in its place to the side of the tumour near its top, adhering only by a surface as large as the end of the finger. The band was about five inches long, one and a half wide at base, and a half inch at tip. The tumour had evidently contracted an adhesion to this reflexion of peritoneum in its ascent from the pelvis, and stretched the false membrane in its farther ascent into the abdomen. This false membrane was colourless (devoid of red vessels), analogous to cellular tissue, as is always the case in those of ancient formation. I have thus minutely described this structure, because it is one of only *three* that were cut within the cavity, and the only cut surface within it that was not tied. It was clipped loose from the tumour, and after examination, to see that no blood was escaping from it, it was suffered to pass back into the cavity.

"The *other* adhesion to the tumour was the fimbriated extremity of the left fallopian tube, which was spread out on the side of the tumour, much after its fashion when embracing a Graafian vesicle. The whole extremity of the tube was quite red, and when dissected from the tumour exhibited an extensive irregular surface, from which blood *oozed* freely. I put a strong ligature around the tube itself, one and a half inches from the uterus, and cut it off. No farther escape of blood took place. The *pedicle* of the tumour was now its only remaining attachment; this was something over an inch wide; I put a strong silk cord around it, and tied it very firmly. The pedicle was separated and the tumour removed. Not a drop of blood escaped from the pedicle, and I don't think that more than three ounces were lost during the operation. After I had satisfied myself that there were no *bleeding vessels* anywhere, I asked Dr. Wood, of Liberty (formerly of St. Louis), and another old physician, to examine if there was any. They did so, and reported none. (I was thus particular, because the case looked so favourably that I wanted to make it absolutely certain of a successful result). The incision was now closed by a number of twisted sutures, and adhesive strips compressed, and a parturient bandage. The pulse continued good during the operation, which lasted eighteen minutes, according to a bystander; and the effects of the chloroform being allowed to subside, the patient waked up and expressed herself as feeling comfortable. She had suffered no pain, and would not believe that the operation had been performed. In half an hour she was removed to bed, and said she felt no inconvenience except soreness. The operation was completed at half-past 12 P.M. In an hour and a half after the operation, she had *slight* rigors that lasted a few minutes. Reaction came on, but it was moderate; pulse about 100, but soft and compressible. There was no pain, no heat of skin, but there was excessive thirst. Cold water and ice were allowed; but as soon as any accumulation took place in the stomach it was thrown up. The *thirst* was the only unpleasant condition of the patient, and towards night this abated somewhat. I stayed with her until bedtime, when the thirst had lessened, and she was otherwise doing well. I ordered morphia, and left her in charge of the family physician and another intelligent young physician; the latter of whom, a relative of the patient, stayed in the house.

"At half-past two, a messenger brought me word that the patient had not slept; in other respects as I had left her. I directed the morphia to be repeated, to produce sleep. One portion had the effect; and at half-past three, the young doctor, who stayed with her, went to bed, leaving her asleep; pulse good, and, as he thought, in better condition than at any time since the operation.

"At six o'clock, the family physician (who was up with an obstetrical case) saw her, and found her sleeping so quietly that he made no examination of the pulse, for fear of disturbing her. At daylight, I went to see her, and found her pulseless, or nearly so, and with hurried, difficult respiration, and great distress. She was manifestly sinking very rapidly. What was the cause? This question was necessary to any treatment. It surely was not the shock of the operation, for that was slight, and had long since passed off. There had been no symptoms of inflammation, and it was much too soon for it to have completed its work. *Hemorrhage* was the only remaining possible cause. It would not do to open the wound to see if my ligatures had slipped, without first

bringing the pulse up by stimulants. They were freely used, but produced no effect, and at 9 o'clock (twenty and a half hours after the operation) she died.

"On examination, I found about two quarts of blood in the abdomen—revealing the cause of her death. *But my ligatures were in place*, and not a drop of blood could have escaped by them.

"What was the source of this hemorrhage? It could not have taken place within the cavity; for the only structures cut, were the pedicle, the Fallopian tube, and the band of false membrane. The ligatures were found firmly applied to the two former, and the latter was a bloodless structure, which could not possibly have furnished it. The only other possible source was the edges of the incision through the abdominal walls. Besides this conclusion, which we arrive at by the method of exclusion, the conditions of the lips of the wound, at the *post mortem*, positively indicated it. *They were very loose and flabby*. If the mouths of the vessels had been plugged up, the edges would have been turgid and firm. This was surely a most extraordinary result. The abdominal walls were attenuated from long-continued distension, and the cut surface was small. I should remark that my incision deviated about half an inch to the left of the median line, and took off a narrow strip of the left rectus muscle, leaving it attached to the right border of the incision. But neither here nor in the whole length of the incision was there a vessel cut large enough to cause even the smallest arterial jet, none that any surgeon would think of tying, in any operation."

Antiperiodic Properties of Humulus Lupulus.—Dr. W. Y. GODBERRY, of Benton, Miss., states (*West. Journ. Med. and Surg.* March, 1853) that the antiperiodic powers of humulus lupulus is equal to that of any other article of the *Materia Medica* except quinia, and he has often found it to succeed in arresting intermittents after quinia had failed. When administered alone, he considers the infusion the best form, which should be double the official strength. One ounce infused in a pint of boiling water should be taken during the interval. When "the secretions are properly regulated, and there exists no enlargement of the spleen, it will rarely fail to effect a cure of tertian or quartan ague." Dr. G. used the tincture alone successfully in three cases. The following combination he recommends as a safe and efficient substitute for quinia: *R. tinct. hum. lup.; cort. Peruv. ʒiiv. pulv. peper. nig. ʒss m.* To be given in doses of half an ounce every two hours, during the interval.

Chloroform in Puerperal Convulsions.—Dr. VAN BUREN reported to the New York Medical and Surgical Society a case of puerperal convulsions, occurring in a lady, twenty-five years of age, with her first child. During gestation, she had enjoyed her ordinary health, except on the evening preceding the attack, when she had retired with a headache. Her physician was sent for at half past one o'clock A. M., and found her in a convulsion. Labour had not commenced. An hour later Dr. Van B. was called, and found her in her third convulsion. On examination per vaginam, it was ascertained that the os uteri was beginning to dilate. Chloroform was immediately given, and after a time the convulsions were relieved, when it was "let up," and the convulsions again returned. Its use was again resumed, and she was kept under its influence until about six o'clock A. M., at which time the os was found to be sufficiently dilated to admit of interference. The forceps was applied, and the delivery speedily completed. The patient was then left in a comfortable condition. Another convulsion, however, came on shortly afterwards, and they recurred every twenty minutes, except when chloroform was given, which controlled them. Other appropriate remedies were resorted to, but the anæsthetic was mainly relied upon. Its use was continued until a few hours before death, which occurred fifty-two hours after the first seizure. During all this time there was no secretion of urine. The child is alive and doing well.

Dr. METCALF asked if the coming on of headache with the commencement of labour, where the patient had up to that time enjoyed good health, was not of grave import? He then mentioned a case in which convulsions followed this symptom.

Dr. DELAFIELD replied that he should be alarmed, and adopt precautionary measures; and alluded to a case of this kind which had fallen under his observation during the past week. In this connection, he inquired of the Society, the result of their experience in the use of chloroform in puerperal convulsions.

Dr. METCALF replied, that in a half dozen cases, occurring in his own practice, and another half dozen in the practice of his friends, when chloroform had been relied upon, but one case had terminated fatally.

Dr. MCCREADY has seen one case in which it was administered freely, but did not control the convulsions. This case, however, terminated favourably.

Dr. DELAFIELD narrated a case in which it was given without at all controlling the disease, and the result was fatal. He doubts the advantage of chloroform in this disease; thinks that, under proper treatment, the great majority of cases of puerperal convulsions will terminate favourably. He recommends one free bleeding from the arm at the commencement of the attack, followed by cupping and strong counter-irritation about the head itself. In the only case which terminated fatally in his practice last year, chloroform was used.

Dr. METCALF thinks that the tendency to a recurrence of the convulsions is owing to excessive nervous excitability; and as chloroform will undoubtedly allay this condition, he thinks its use highly beneficial. He then mentioned a case of his own, in which the patient had but one convulsion, which terminated fatally. A *post-mortem* examination revealed a clot in the brain. This he considers rare.

Dr. DELAFIELD, in reply to questions put by several members, stated that he does not consider opium as a safe remedy in this disease. A very large proportion of cases occur after the labour is completed; and they very seldom occur before the labour has fairly commenced. Convulsions, however, sometimes do occur, from time to time, during gestation, and yet the labour goes on perfectly well.

Dr. MARKOE inquired what influence the progress of labour produces upon the convulsions. Also as to the propriety of hastening the labour in such cases.

Dr. DELAFIELD replied that he would never interfere when there would be any serious difficulty in doing so—where there would be much shock; but would wait until the os uteri was well dilated. He also remarked that children are not often born living after convulsions have existed for any length of time. Where convulsions occur and subside before delivery, the child is always dead.
—*New York Medical Times*, April, 1853.

**THE
AMERICAN JOURNAL
OF THE MEDICAL SCIENCES
FOR OCTOBER 1853.**

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TO READERS AND CORRESPONDENTS.

The following works have been received:—

A Treatise on Diseases of the Heart. By O'B. BELLINGHAM, M. D., F. R. C. S., etc. Dublin, 1853. (From the Author.)

General Board of Health. Second Report on Quarantine. Yellow Fever. With Appendix. Presented to both Houses of Parliament, by command of Her Majesty. London, 1852. (From Her Majesty's Commissioners.)

Appendix to the Report of the General Board of Health on the Epidemic Cholera of 1848 and 1849. Abstract of Report by JAMES WYNN, M. D., on Epidemic Cholera, as it prevailed in the United States in 1849 and 1850. Presented to both Houses of Parliament by command of Her Majesty. London, 1852. (From Her Majesty's Commissioners.)

On the Nature and Treatment of some Painful Affections of Bone. Read before the Medico-Chirurgical Society of Queen's College, Birmingham, on Tuesday, October 19, 1852. By LANGSTON PARKER, Professor of Anatomy in Queen's College, etc. etc. London and Birmingham, 1852. (From the Author.)

Principles of Medicine; comprising General Pathology and Therapeutics, and a General View of Etiology, Nosology, Semeiology, Diagnosis, Prognosis, and Hygienics. By CHARLES J. B. WILLIAMS, M. D., F. R. S.; late Professor of Principles and Practice of Medicine, &c., in Union College, London, &c. &c. Edited by MEREDITH CLYMER, M. D., &c. Fourth American edition, revised. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

The Practice of Surgery. By JAMES MILLER, F. R. S. E., F. R. C. S. E., &c. &c. Third American from the second Edinburgh edition. Edited, with Additions, by F. W. SARGENT, M. D., one of the Surgeons to Wills Hospital. Illustrated by three hundred and nineteen engravings on wood. Philadelphia: Blanchard & Lea. (From the Publishers.)

The Book of Nature; An Elementary Introduction to the Sciences of Physics, Astronomy, Chemistry, Mineralogy, Geology, Botany, Zoology, and Physiology. By FREDERICK SCHEDLER, Ph. D., &c. &c. First American edition, with a Glossary, and other Additions and Improvements, from the second English edition. Translated from the sixth German edition, by HENRY MEDLOCK, F. C. S., &c. &c. Illustrated by six hundred and ninety-seven engravings on wood. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

A Practical Treatise on the Diseases of Children. By D. FRANCIS CONDIE, M. D., Secretary to the College of Physicians, etc. etc. Fourth edition, revised and augmented. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

Dr. HOOPER's Physicians' Vade Mecum; or, A Manual of the Principles and Practice of Physic. Considerably enlarged and improved, with An Outline of Pathology and Therapeutics, by WM. AUGUSTUS GUY, M. B., Cantab., &c., Author of "Medical Jurisprudence," &c. With Additions by JAMES STEWART, A. M., M. D., &c. Philadelphia: Edm. Barrington & Geo. D. Haswell, 1853.

A Treatise on Operative Ophthalmic Surgery. By H. HAYNES WALTON, Fellow of the Royal College of Surgeons in England, &c. &c. First American from the first London edition. Illustrated by one hundred and sixty-nine engravings on wood. Edited by S. LITTELL, M. D., author of A Manual of the Diseases of the Eye, &c. Philadelphia: Lindsay & Blakiston, 1853.

The Maternal Management of Children, in Health and Disease. By THOMAS BULL, M. D., Member of the Royal College of Physicians, &c. Second edition. Philadelphia: Lindsay & Blakiston, 1853.

The Microscopist; or, A Complete Manual on the Use of the Microscope, for Physicians, Students, and all Lovers of Natural Science. Second edition, improved and enlarged. With illustrations. By JOSEPH H. WYTHES, M. D. Philadelphia: Lindsay & Blakiston; London: Trubner & Co., 1853.

Hallucinations; or, The Rational History of Apparitions, Visions, Dreams, Ecstasy, Magnetism, and Somnambulism. By A. BRIERRE DE BOISMONT, M. D. P., &c. &c. First American from the second enlarged and improved Paris edition. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

A Manual of Obstetrics. By THOMAS F. COCK, M. D., Physician to the New York Lying-in Asylum, etc. New York: Samuel S. & Wm. Wood, 1853.

The Prescriber's Pharmacopœia; containing all the Medicines in the London Pharmacopœia, arranged in Classes according to their Action, with their Composition and Doses. By a Practising Physician. Revised, with Additions. Third American from the fourth London edition. By T. F. COCK, M. D., etc. New York: S. S. & W. Wood, 1853.

The Physician's Visiting List, Diary, and Book of Engagements, for 1854. Philadelphia: Lindsay & Blakiston.

Transactions of the Tennessee State Medical Society, at their Twenty-Fourth Annual Session, convened at Nashville, May 4, 1853. Nashville, 1853.

Transactions of the Medical Association of Southern Central New York, at the Seventh Annual Meeting, held at Ithaca, June, 1853. Auburn, 1853. (From Geo. W. Bradford, M. D.)

Proceedings of the American Pharmaceutical Association, at the Annual Meeting, held in Boston, August 24, 25, and 26, 1853. Published by direction of the Association. Philadelphia, 1853.

Report of the Causes and Prevention of Suits for Mal-Practice in Medicine and Surgery. Boston, 1853.

Cases of Occlusion of the Vagina, with Retention of the Catamenia, relieved by an Operation. By J. MASON WARREN, Surgeon at Massachusetts General Hospital. Boston, 1853. (From the Author.)

Respiration and Nutrition. A Thesis presented to the Medical Faculty of Harvard University, March, 1850. By E. LEIGH, M. D. Boston, 1853. (From the Author.)

The Philosophy of Medical Science, considered with Special Reference to Dr. Elisha Bartlett's "Essay on the Philosophy of Medical Science." A Boylston Prize Essay, 1849. By E. LEIGH. Boston, 1853. (From the Author.)

A Report on the Health and Mortality of the City of Memphis, for the Year 1852. By CHARLES TODD QUINTARD, M. D. Memphis, 1853.

Sixty-Sixth Annual Report of the Regents of the University of the State of New York. Transmitted to the Legislature, March 1, 1853. Albany, 1853.

Essays on Asylums for Persons of Unsound Mind. Second series. By JOHN M. GALT, M. D., Superintendent of the Eastern Lunatic Asylum of Virginia, at Williamsburg. Richmond, Va., 1853. (From the Author.)

Prize Essay. Read before the Ohio State Medical Society, at its Eighth Annual Meeting, in Dayton, June, 1853. By SAMUEL G. ARMOR, M. D. Dayton, 1853. (From the Author.)

An Argument against Professional Patents. By R. ARTHUR, M. D., D. D. S., &c. Baltimore, 1853.

A Discourse on the Life, Character, and Services of DANIEL DRAKE, M. D. Delivered by Request, before the Faculty and Medical Students of the University of Louisville, January 27, 1853. By S. D. GROSS, M. D. Louisville, 1853.

Fracture Tables. By FRANK H. HAMILTON, A. M., M. D., Professor of Surgery in the University of Buffalo, &c. With a Supplement, compiled from Dr. HAMILTON's Notes, by JOHN BOARDMAN, A. B. Comprising in all an Analysis of 461 Cases of Fractures. Buffalo, 1853.

On the Alteration of the Taste in Paralysis of the Facial Nerve. (Translated from the French, by HOWELL L. THOMAS, M. D.) Richmond, 1853.

Address on Morbid Anatomy. Delivered before the Massachusetts Medical Society, at their Annual Meeting, May 25, 1853. By J. B. S. JACKSON, M. D. Boston, 1853. (From the Author.)

The Annual Address. Delivered before the New York State Medical Society and Members of the Legislature, at the Capitol, February, 1853. By A. CLARK, M. D., President of the Society, &c. Albany, 1853.

Address to the Boston Society of Natural History. By JOHN C. WARREN, M. D., President of the Society. Boston, 1853. (From the Author.)

Catalogue of the Trustees, Faculty, and Students of the Medical College of the State of South Carolina. Session of 1852-'53. Charleston, 1853.

Annual Catalogue and Announcement of the Medical Department of the St. Louis University. Session of 1853-'54. St. Louis, Mo., 1853.

Annual Announcement of Starling Medical College. Session of 1853-'54. And Catalogue of Graduates for the Session of 1852-'53. Columbus, 1853.

Annual Circular of the National Medical College, Washington, D. C. Session of 1853-'54. Washington, 1853.

Annual Announcement of the Medical Department of Pennsylvania College, Ninth Street, below Locust, Philadelphia. Session of 1853-'54. Philadelphia, 1853.

Report of the Trustees of Stockton State Hospital. Made to the Legislature of California, 1853. (From R. K. Reid, M. D.)

Annual Announcement of the Medical Faculty of M'Gill College, Montreal, for the Session of 1853-'54. Montreal, 1853.

Fourteenth Annual Announcement and Catalogue of the Baltimore College of Dental Surgery. Session of 1853-'54. Baltimore, 1853.

The following Journals have been received in exchange:—

Moniteur des Hospitaux. Redacteur en chef, M. H. DE CASTELNAU. July, August, September, 1853.

Gazette Médicale de Paris. March, April, May, June, July, 1853.

Revue de Thérapeutique Médico-Chirurgicale. Publiée par le Dr. A. MARTIN LAWZER, M. P. P. April, May, June, 1853.

The British and Foreign Medico-Chirurgical Review. July, 1853.

The Journal of Psychological Medicine and Mental Pathology. Edited by FORBES WINSLOW, M. D. July, 1853.

The Half-Yearly Abstract of the Medical Sciences. Edited by W. H. RANKING, M. D., and C. B. RADCLIFFE, M. D. January to June, 1853.

The Retrospect of Medicine. Edited by W. BRAITHWAITE, Lecturer on Obstetric Medicine, &c. January to June, 1853.

Association Medical Journal. Edited by JOHN ROSE CORMACK, M. D. June, July, August, September, 1853.

The Glasgow Medical Journal. July, 1853.

Monthly Journal of Medical Science. Edited by Profs. CHRISTISON, SYME, SIMPSON, BENNETT, and Drs. MACLAGAN and ROBERTSON. June, July, August, September, 1853.

Dublin Medical Press. July, August, September, 1853.

Medical Times and Gazette. July, August, September, 1853.

The Virginia Medical and Surgical Journal. Edited by GEO. A. OTIS, M. D., and H. L. THOMAS, M. D. July, August, September, 1853.

Buffalo Medical Journal. Edited by AUSTIN FLINT, M. D., and S. B. HUNT, M. D. July, August, September, 1853.

The Medical Examiner. Edited by F. G. SMITH, M. D., and J. B. BIDDLE, M. D. July, August, September, 1853.

The Southern Journal of Medical and Physical Sciences. Edited by Drs. KING, JONES, RAMSEY, CURREY, and WOOD. July, September, 1853.

The Western Journal of Medicine and Surgery. Edited by L. P. YANDELL, M. D., and T. S. BELL, M. D. June, July, 1853.

The North-Western Medical and Surgical Journal. Edited by W. B. HERICK, M. D., and H. A. JOHNSON, M. D. June, July, August, 1853.

The New Hampshire Journal of Medicine. Edited by EDWARD H. PARKER, M. D. July, August, September, 1853.

The New Orleans Monthly Medical Register. Edited by A. F. AXTON, M. D. July, August, and September, 1853.

New Orleans Medical and Surgical Journal. Edited by A. HESTER, M. D. July, September, 1853.

The Western Medico-Chirurgical Journal. Edited by J. F. SANFORD, M. D. July, 1853.

St. Louis Medical and Surgical Journal. Edited by Drs. M. L. LINTON and Wm. M. MCPHEETERS. July, September, 1853.

American Journal of Pharmacy. Edited by WM. PROCTOR, Jr., Professor of Pharmacy in Philadelphia College of Pharmacy. July, September, 1853.

The Western Lancet. Edited by L. M. LAWSON, M. D., and T. WOOD, M. D. June, August, 1853.

The Esculapian. Edited by C. D. GRISWOLD, M. D. June, 1853.

The New York Journal of Medicine and the Collateral Sciences. Edited by SAMUEL S. PURPLE, M. D., and STEPHEN SMITH, M. D. July, September, 1853.

New York Medical Times. Edited by H. D. BULKLEY, M. D., &c. July, August, September, 1853.

Southern Medical and Surgical Journal. Edited by L. A. DUGAS, M. D. July, August, September, 1853.

The New York Medical Gazette. Edited by D. M. REESE, M. D. July, August, September, 1853.

The American Journal of Science and Arts. Conducted by Prof. B. SILLIMAN, B. SILLIMAN, Jr., J. B. DANA, Dr. W. GIBBS, and A. GRAY. July, September, 1853.

The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica. July, 1853.

The New Jersey Medical Reporter, and Transactions of the New Jersey Medical Society. Edited by JOSEPH PARRISH, M. D. July, August, 1853.

New York Journal of Pharmacy. Published by Authority of the College of Pharmacy of the City of New York. Edited by BENJ. W. MCCREADY, M. D. June, July, August, September, 1853.

The Medical Chronicle. Edited by WILLIAM WRIGHT, M. D., and D. C. MACCALLUNN, M. D. July, September, 1853.

The Charleston Medical Journal and Review. Edited by D. J. CAIN, M. D., and F. P. PORCHER, M. D. July, September, 1853.

The Ohio Medical and Surgical Journal. Edited by RICHARD L. HOWARD, M. D. July, September, 1853.

Transylvania Medical Journal. Edited by L. J. FRAZEE, M. D. July, 1853.

The Stethoscope, and Virginia Medical Gazette. Edited by P. C. GOOCH, M. D. August, September, 1853.

The American Journal of Dental Science. Edited by C. A. HARRIS, M. D., D. D. S., and A. A. BLANDY, M. D., D. D. S. July, 1853.

Iowa Medical Journal. Conducted by the Faculty of Iowa University. August, September, 1853.

The American Psychological Journal. Edited by EDWARD MEAD, M. D. March, 1853.


Kentucky Medical Recorder. Edited by H. M. BULLITT, M. D., and R. J. BRECKENRIDGE, M. D. September, 1853.

The Peninsula Journal of Medicine and the Collateral Sciences. Edited by E. ANDREWS, A. M., M. D., etc. September, 1853.

The Boston Medical and Surgical Journal. Edited by J. V. C. SMITH, M. D. July, August, September, 1853.

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to ISAAC HAYS, M. D., Editor of the American Journal of the Medical Sciences, care of Messrs. Blanchard & Lea, Philadelphia. Parcels directed as above, and (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, London; or to John Wiley or G. P. Putnam, New York; or W. D. Ticknor, Boston; or M. Hector Bossange, Lib. quai Voltaire, No. 11, Paris, will reach us safely and without delay. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Blanchard & Lea.

 The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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THE
AMERICAN JOURNAL
OF THE MEDICAL SCIENCES
FOR OCTOBER 1853.

ART. I.—*Medical and Surgical Notes of Campaigns in the War with Mexico, during the years 1845, 1846, 1847, and 1848.* By JOHN B. PORTER, M. D., Surgeon U. S. Army.

OUR last paper left us at Saltillo, at the end of 1846, with the quarterly reports of sick brought up, and we will now sum up the vital statistics of the Artillery Battalion for the whole year.

Abstract of Diseases in the Artillery Battalion and Duncan's Battery, during the year 1846. From Quarterly Reports.

DISEASES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Continued fever . . .	1	...	2	1	7	9	4	1	12	5	4	3	49
Intermittent fever . . .	...	2	...	1	...	3	8	13	24	178	247	125	601
Remittent fever . . .	...	...	...	...	...	2	3	...	...	22	7	7	41
Eruptive fever . . .	...	...	...	...	...	...	...	...	...	1	...	...	1
Typhoid fever . . .	...	...	...	...	...	...	...	...	...	...	...	1	1
Diarrhoea . . .	20	2	4	3	3	19	14	43	41	25	18	12	204
Dysentery . . .	8	17	14	29	26	15	19	58	29	25	9	3	252
All others of digestive system	7	5	3	7	9	8	8	8	9	1	3	4	70
Catarrh . . .	45	38	18	16	5	16	5	16	36	17	18	16	246
All others of respiratory system . . .	2	...	...	1	1	...	...	2	1	0	2	3	12
Brain and nervous system . . .	3	...	3	4	8	2	...	1	...	...	1	...	22
Fibrous and muscular tissues	7	9	5	6	3	...	...	4	1	1	1	1	38
Urinary and genital organs	...	...	...	...	1	2	1	3	1	2	...	17	27
Abscesses and ulcers . . .	20	3	11	11	18	4	6	20	7	3	9	2	114
Wounds and injuries . . .	9	9	10	6	33	14	9	29	51	7	17	8	202
All other diseases . . .	9	24	9	19	8	35	25	48	17	7	13	10	224
Total taken sick in 1846 .	131	109	79	104	122	129	100	246	229	294	349	212	2104

Sent to the general hospitals	193
Returned to duty	1871
Discharged for disability	3
On furlough	1
Deserted	2
Died	13

2083

Remaining sick December 31, 1846 82

2165

Deduct number sick December 31, 1845 61

Total taken sick in 1846 2104

MEAN STRENGTH.

Months.	Officers.	Men.	Total.
January	39	512	551
February	40	513	553
March	41	536	557
April	36	454	490
May	32	393	425
June	34	410	444
July	21	255	276
August	27	507	534
September	30	586	616
October	29	504	533
November	32	617	649
December	26	485	511
Aggregate	387	5772	6149
Average	32	481	513

Mortality in the Battalion and Battery, from all Causes, in all the Hospitals, in 1846.

CAUSE OF DEATH.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Killed in battle ¹	2	...	...	...	4	...	...	...	6
Died of wounds received in battle	5	1	...	...	2	2	...	...	10
Congestive fever	1	...	...	...	...	1
Continued fever	1	...	...	...	...	...	1	1	...	...	2	1	6
Quotidian intermittent	1	...	1
Remittent fever	1	...	...	...	...	...	1
Dysentery, acute and chronic	1	...	...	2	1	...	...	1	...	1	6
Icterus	1	1
Phthisis pulmonalis	1	...	...	1
Pneumonia	1	...	...	...	1
Apoplexy	1	...	1
Wounds and injuries not received in battle	1	1	...	1	3
Angina pectoris	1	...	...	...	1
Hypertrophica cordis	1	...	...	...	...	...	...	...	...	...	...	1
Submersio ¹	1	...	1	...	...	...	...	2
Unknown ¹	1	...	...	2	1	2	6
	1	1	1	...	7	4	4	3	8	8	5	6	48

¹ Sudden deaths do not appear in the reports to the Surgeon-General, not having been subject to treatment. There is no record of the "unknown" cases, in relation to the cause of death, in either the Surgeon-General's or Adjutant-General's offices.

From the foregoing tables a squadron of dragoons—say 150 men—is to be deducted from the mean strength, from the 21st to the end of November, having 47 cases of disease, viz.: Continued fever, 2; intermittent, 10; remittent, 1; diarrhoea, 4; dysentery, 1; acute bronchitis, 2; catarrh, 12; wounds and injuries not received in battle, 8; all others, 7. One death from continued fever. Deduct these, and we have as correct a report of the battalion and battery for the year as can be made. Duncan's battery joined our division on the 9th of March, the day we took up the line of march to the Rio Grande from Corpus Christi.

The tables show that the strictly climatic diseases amount to 1147; deaths from them 16, or 1.40 per cent. Even admitting the deaths from unknown causes, the mortality is only 1.92 per cent. Mortality from fevers 1.29 per cent. Admit that the unknown cases died of fever, the mortality is 2.16 per cent. Mortality from diarrhoea and dysentery, 1.32 per cent.; and admitting what is not probable, that all the deaths from unknown causes were from these diseases, the mortality would be 2.63 per cent. It must be recollected that we were on the line of the Rio Grande, with regular troops. The line from Vera Cruz to the City of Mexico will show different results. Mortality per cent. for the year, 2.24 per cent.

Humboldt says of Saltillo:—

“Cette ville est entourée de plaines arides, dans lesquelles le voyageur souffre beaucoup du manque de sources.”

Of the country which constitutes the bishopric of Monterey, geology and climate, the same author speaks as follows:—

“L'évêché de Monterey, qui porte le titre pompeux de Nouveau royaume de Leon, Cohahuila, Santander et Texas, sont des régions très basses; elles présentent peu de mouvement de terrain, et le sol y est couvert de formations secondaires et d'alluvions. Leur climat est assez inégal, excessivement chaud en été, et d'une fraîcheur extraordinaire en hiver, lorsque les vents du nord chassent des colonnes d'air froid de Canada vers la zone torride.”

The winter climate of Saltillo is more severe than that of Monterey. On the morning of November 25, 1846, the ice was one-eighth of an inch in thickness; December 19th to the 22d very cold, and on the morning of the 20th there was ice; January 1, 1847, cold, and a snow-like atmosphere; January 7, a very cold morning, following a very cold night, and thick ice on still water; January 8, last night very cold, and the ice this morning is at least half an inch thick. From our entrance into the town, November 16, to the time of our departure, January 9, there was no rain; the fields being watered by a system of irrigation.

In the country around Saltillo, there are large quantities of the maguey, *Agava Americana*, from the juice of which is made the favourite *pulque* of the Mexicans. This plant was cultivated by the ancient inhabitants, for Bernal Diaz mentions it on the march of Cortez from Vera Cruz to the City of Montezuma, in 1519: “Y desde aquellas sierras pasamos adelante, y era

llano, y habia muchas casas de labranzas de maiz y magiales, que es de lo que hacen el vino." Clavigero says: "El vino mas comun, y el mejor de los Megicanos es el de maguei, que ellos llaman *octli*, y los Españoles *pulque*." Humboldt (in 1802) and Bullock (in 1823) both speak of the large groves of the maguey, and the immense consumption of pulque by the inhabitants. The Mexicans consider the pulque a wholesome beverage, and it certainly is much more so than the *aguardiente* of the country. Many of our men fortunately became attached to it, it being a much better drink on every account, better for the individual and better for the service, than the Anglo-Saxon alcoholic stimulants. Humboldt says that the pulque is regarded *comme stomachique, fortifiant, et très nourissant*. In the *New York Medical Journal* for September, 1851, there is an interesting report from Assistant-Surgeon Glover Perin, U. S. A., to the Surgeon-General, in relation to the maguey, from which report it appears that the expressed juice of this plant is an undoubted antiscorbutic.

Jan. 9th, 1847. Our division was put *en route* for the mouth of the Rio Grande, via Monterey, Camargo, and Matamoras, Vera Cruz being the object of the movement. This march was a severe one.

10th. Last evening and in the night there was rain, and it rained pretty steadily through the day. The march was cold and uncomfortable. Encamped at Pass Rinconada.

11th. Last night was uncomfortably cold, and this morning the ground and wet tents were stiffly frozen. During the whole of this day's march there was a cold easterly wind, the sky was clouded, and everybody was uncomfortable. I have rarely suffered more from cold.

12th. Last night encamped five miles from Monterey. A bitter cold night. Fine day.

13th and 14th. Warm. Road very dusty.

15th. A long, hot, dusty, and disagreeable march. Encamped at Cerralvo.

16th. A norther came up, cold, disagreeable, with clouds of dust through the day.

17th. Cool, clouds of dust.

18th. Quite warm.

19th. The first part of last night quite warm, but in the night the wind changed, and it blew a norther before morning. Clouds of sand flying to-day. A horribly cold and disagreeable march. Arrived at Camargo.

By the last of the month an encampment was fully formed on the Rio Grande, preparatory to embarkation for Vera Cruz, about equidistant from Matamoras and the mouth of the river, a few miles from the battle-field of Palo Alto; hence the name of our camp, Palo Alto. Here the battalion was broken up, the companies composing it joining their respective regimental colours.

Communication to the Surgeon-General:—

* * * * *

"Our entire division was embarked for Vera Cruz by the 20th of February, 1847, the rendezvous for the whole fleet of transport ships being Lobos Island, off the Mexican coast, in lat. 19° 26' N. March 2d. Made sail for Point Anton Lizardo, about 12 miles below Vera Cruz, lat. 19° 4' N., lon. 95° 59' W., where we arrived on the 5th. March 9th. Our division landed on the beach near Vera Cruz, nearly opposite the island of Sacrificios, a little before sunset, and

immediately took possession of the sand-hills in front. Patterson's volunteer division and the reserve under Gen. Twiggs followed during the night. The town was invested as rapidly as possible, and on the 22d our mortar batteries opened, which compelled the enemy to send proposals of accommodation on the 26th, and on the 29th we took possession of both the town and the castle of San Juan de Ulua by articles of capitulation."

The site of modern Vera Cruz was discovered by Juan de Grijalva, in 1518. Bernal Diaz, who was in the expedition, gives a description in his *Historia Verdadera de la Conquista de la Nueva España*, tom. ii. capitulo XIV. as follows :—

"Desembarcados en unos arenales hicimos chozas encima de los mastos y medaños de arena, que los hay por alli grandes, por causa de los mosquitos, que habia muchos, y con bateles ondearon muy bien el puerto, y hallaron, con el abrigo de aquella Isleta estarian seguros los navios del Norte, y habia buen fondo."

According to the above account of Bernal Diaz, it would seem that nearly everything was presented more than three hundred years ago, as at the present time; the sands, the mosquitos, the little isle named by the discoverers San Juan de Ulua, the port, the anchorage, and the northers.

Hernando Cortes landed on the same spot the year after the discovery by Grijalva, as related by Bernal Diaz :—

"En Juéves Santo de la Cena del Señor, de mil y quinientos y diez y nueve años, llegamos con toda la Armada al puerto de San Juan de Ulua. * * * Y otro dia, que fué Viérnes Santo de la Cruz, desembarcamos, asi caballos como artilleria, en unos montones de arena, que no habia tierra llana."

Clavigero, himself a Vera Cruzano, gives the history of the foundation of the different cities :—

"La primera, fundada en 1519 cerca del puerto de Quiahuitztla, que conservó despues el nombre de Villa Rica; la segunda, la antigua Vera Cruz, fundada en 1523 o' 1524; y la tercera, la nueva Vera Cruz, que hoy conserva este segundo nombre, y fué fundada por orden del conde de Monterey, virey de México, á fines del siglo XVI., y recibo de Felipe III. el titulo de ciudad en 1615."

It appears that La Villa Rica de la Vera Cruz was founded in 1519; that the second town, la antigua Vera Cruz, was built in 1523 or 1524; and the modern town towards the end of the sixteenth century, receiving the privileges of a city in 1615. The first town would probably have occupied the site of the modern one but for the uninviting appearance of the place, the sand-hills, and the mosquitos and other insects; for Bernal Diaz says, in 1519 :—

"Y dexallos he agora, y pasemos adelante, y digamos, que en aquellos arenales donde estabamos habia siempre muchos mosquitos zancudos, como de los chicos, que llaman xexenes, y son peores que los grandes, y no podiamos dormir dellos."

Villa Rica de la Vera Cruz, built near the ancient Mexican town of Quiahuitzlan, and about 40 miles (Bernal Diaz says *doce leguas*) from the site of modern Vera Cruz, was given up by reason of its exposed situation, the ships

having no protection from the northerners; and Vera Cruz Antigua, at the mouth of the River Antigua, now called Vera Cruz Vieja, to distinguish it from the new town, or Vera Cruz Nueva, was abandoned on account of its insalubrity.

The geology of modern Vera Cruz is soon given, in the language of Humboldt: "Les sables couvrent les formations secondaires qui reposent sur le porphyre de l'Encero." Bullock, 1823, says, after Humboldt:—

"The whole town, as well as the castle, is built of coral (*Madrepora* mean-drities); and the lime that forms the cement is of the same material, and the same is used for the roofs and pavements; it is so hard that in some places it receives, from friction, a polish like marble."

Malte-Brun says:—

"La jolie ville de *La Vera Cruz*, siège des autorités de l'État qui porte son nom, ne doit rien aux faveurs de la nature. Les rochers de madrépores dont elle est construite ont été tirés du fond de la mer; la seule eau potable est recueillie dans des citernes; le climat est chaud et malsain; des sables arides et brûlants entourent la ville au nord, tandis qu'on voit s'étendre au sud des marais desséchés."

Vera Cruz is situated in the low country, *tierra caliente*, nearly on a level with the sea, in lat. 19° 11' 52" N., lon. 96° 8' 36" W. It is a walled town, in shape a parallelogram, with strong batteries at the angles, being perhaps half a mile in width, and two miles in length. The town is well built, with broad streets, which are easily drained, the gutter being in the middle of the street. In the rainy season the water rushes down these gutters, and carries the offal to the seashore, from which it can be easily removed. Back of the town, beyond the sand-ridges, are some swamps, which are supposed by some, as Poinsett and Prescott, to be the principal cause of insalubrity. But Vera Cruz is so situated in relation to the immediate interior, that the streets can be daily washed; and I am informed by a gentleman of undoubted veracity, recently from the place, that the streets have been daily washed during the past year (1852), the consequence being that only seven cases of yellow fever were reported within the year. Having little confidence in city reports of vital statistics, I am willing to multiply 7 by 40, and then compare disease and death in Vera Cruz with disease and death in Norfolk, Wilmington, Charleston, Savannah, and New Orleans, for 1852. The comparison would be highly favourable to Vera Cruz. In 1847, under the most unfavourable circumstances, in a state of war, having sustained a siege, and in wretched police, Vera Cruz was much less afflicted with malignant yellow fever, bad as the disease was, than New Orleans, and so it will probably continue to be. During the past year, Vera Cruz has undoubtedly been the best policed city on this continent.

The foregoing is sufficient for the geology and medical topography of the city.

Population.—This has diminished in a series of years. In 1847, the town might have contained 4000 or 5000 inhabitants; Brantz Mayer estimates the

number at 6500; Bullock, 1828, gives the number as about 7000; and Humboldt says, 1802: "La population habituelle de Vera Cruz, sans compter la milice et les gens de mer, est de 16,000."

Climate.—Extracts from the Meteorological Register of 1847.

MONTHS.	DETACHED THERMOMETER.					WET-BULB.		Highest degree.	Lowest degree.	Hottest daily mean.	Coldest daily mean.	Rain in inches.
	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	3 P. M.					
June	77.83	81.55	83.86	81.56	80.60	76.00	78.79	85	72	83.	77.	4.15
July	75.18	80.00	82.06	80.93	78.59	74.06	77.97	84	72	80.5	77.	16.70
August	75.51	81.25	83.03	80.80	79.27	74.29	78.71	85	73	81.5	77.5	9.50
September	76.10	80.73	82.26	80.63	79.18	73.69	77.31	85	71	81.	77.	8.95
October	74.87	78.45	79.16	78.51	77.01	72.09	74.51	82	68	80.	71.	4.05
November	72.73	74.10	75.65	75.31	74.19	67.26	68.93	82	64	78.5	65.5	0.54
December	66.71	67.97	68.61	68.45	67.67	52.35	52.03	75	58	74.	62.	0.50

The foregoing table is but an approximation to correctness, for the assistant to whom the Meteorological Register was committed was not particular about entries, and many blanks occur in the tables. Humboldt and Malte-Brun have, however, given the results of extended observations.

Tableau des Bandes Isothermes (Thermom. Centigrade).—MALTE-BRUN.

Bandes' isoth. audessus de 25°.	NOUVEAUX DE LIEUX.	Latitude.	Longitude.	Hauteur entolées.	Temp. moyenne l'année.	Temp. moyenne de l'hiver.	Temp. moyenne du printemps.	Temp. moyenne de l'été.	Temp. moyenne de l'automne.	Maximum.	Minimum.
	La Kaire	30.02	28.586	0	22.4	14.7	23.1	29.5	21.9	29.9	13.4
	La Vera Cruz	19.11	98.210	0	25.4	22.2	25.5	27.5	29.5	27.7	21.7
	La Havane	23.10	84.330	0	25.6	21.8	26.1	28.5	26.1	28.8	21.1
	Cumana	10.27	67.350	0	27.7	26.8	28.7	27.8	26.8	29.1	26.2

Température Moyenne de Vera Cruz (Thermom. Centigrade).—HUMBOLDT.

Mois.	Pas de vomito prieto.		Epidémies du vomito prieto.	
	1792.	1793.	1794.	1795.
Janvier . . .	21.5	20.8	20.6	20.7
Février . . .	21.5	22.3	22.8	21.0
Mars . . .	23.7	22.8	22.6	22.5
Avril . . .	24.2	26.1	25.3	24.0
Mai . . .	27.3	27.9	25.3	26.3
Juin . . .	28.5	27.3	27.5	27.2
Juillet . . .	27.5	26.9	27.8	27.7
Août . . .	28.3	28.1	28.3	27.8
Septemb. . .	27.5	28.1	27.1	26.1
Octobre . . .	26.3	25.5	26.1	25.0
Novembre . .	24.7	24.4	23.0	24.3
Décembre . .	21.9	22.1	21.7	21.9
Températ. moyenne de l'année . .	25.2	25.2	24.8	24.5

"Côtes orientales de la Nouvelle-Espagne, température moyenne de l'année 25° 4'. Vera Cruz, lat. 19° 11', le jour communément dans la saison la plus chaude 27° à 30°; la nuit 25°, 7—28°; dans la saison froide le jour 19° à 24°; de nuit 18°—22°. Plus grande chaleur de toute l'année 36°, la moindre chaleur 16°. La température moyenne du mois de Décembre diffère de celle du mois d'août de 5°, 6°."—HUMBOLDT.

It is Humboldt's opinion that the heat and humidity of the atmosphere favour the production of miasms, and augment the organic irritability, thus acting as predisposing causes of disease.—*New Spain*, vol. iv. p. 216.

Clavigero says:—

"Las costas son muy calientes, y por lo comun, humedas y malsanas. Este ardor exesivo, que promueve el sudor aun en los meses del invierno, proviene de la suma depresion de las costas con respecto a las tierras interiores, y de las grandes masas de arena que se reunen en la playa, como sucede en Vera Cruz, mi patria." * * * "Algunas tierras, como las inmediatas a las costas, son calidas, y por lo comun, humedas, y malsanas; otras, como casi todas las interiores, son templadas, secas, y sanas."—*Traducida del Italiano*, por Jose Joaquin de Mora.

Brantz Mayer gives a table showing the quantity of rain which fell in a series of years. Reduced to inches.

Year.	Inches.	Year.	Inches.
1822	157.5	1827	254.8
1823	188.9	1828	146.0
1824	128.1	1829	278.3
1825	127.1	1830	216.0
1826 ¹	64.4		

"The amount of water which has fallen in each year very far exceeds the quantity known to fall annually in any part of the United States. It is not, however, difficult to account for the difference. Vera Cruz, situated at the bottom of the Gulf of Mexico, backed by a lofty range of mountains rising beyond the limits of perpetual congelation, must necessarily be the recipient of the immense body of water held in solution by the hot intertropical air, and which is constantly carried along by the trade winds, to be condensed against the cold mountains."

The City of Mexico is distant from Vera Cruz only about 250 miles, in a direct line; Humboldt says 69 leagues, which is nearly the same, allowing for the difference in measurement, and is 7,470 feet above the level of the sea—an elevation of nearly 30 feet (29.88) to the mile; Puebla de los Angeles is 7,198 feet above the sea; Perote, 7,723; and Jalapa, only 50 miles from Vera Cruz, is 4,330 feet above it, or an elevation of 86.6 feet for each mile. High above these cities are the mountains. Popocatepetl, 17,720 feet above the sea; the Cofre de Perote, 13,415 feet; and nearer still to Vera Cruz is the famed Orizaba, 17,374 feet above the sea, only 346 feet less in height than Popocatepetl itself, the second mountain in all Mexico, Iztaccihuatl being only 15,702 feet high. Orizaba, the ancient Citlaltepétl, crowned with eternal snows, always visible from Vera Cruz in a clear atmosphere, was seen by the bold Spanish navigators in 1518, as described by Bernal Diaz:

¹ This year was remarkably dry; and was, moreover, characterized by universally severe weather upon the coast, and a great destruction of shipping property.

"E'luego se parecieron las grandes sierras nevadas, que en todo el año estan cargadas de nieve." This brief survey may account for the heavy annual rains in Vera Cruz and on the coast.

The *northers* give another peculiarity to the climate. They are common from October to March or April, and they have been known to blow so strongly and steadily as to interrupt all communication between the town of Vera Cruz and the Castle of San Juan de Ulua for fifteen days together. The inhabitants look upon these severe storms much in the same light as the residents of New Orleans and other southern cities of the United States regard a severe frost—that they purify the atmosphere and check the progress of yellow fever.

Diseases.—The principal ones in Vera Cruz, and on the whole coast of the *tierra caliente*, are diarrhoea and dysentery, and tropical fevers, particularly yellow fever, or *vomito prieto*. Yellow fever is the frightful disease of this climate and of this town. Vera Cruz is on the route to the City of Mexico, foreign travellers pass through it on their way to a more temperate climate; they talk about it and write about it, and hence its celebrity; but it is very much to be doubted if yellow fever is so severe as in Tampico and other towns near the coast; and it is believed that Vera Cruz is quite as salubrious as New Orleans. But yellow fever is severe enough in Vera Cruz, in all conscience.

Many years ago, even before the Spaniards invaded Mexico, a malignant disease or fever prevailed, termed by the ancient inhabitants *matlazahuatl*.

"Long-temps avant l'arrivée de Cortéz, il a régné presque périodiquement à la Nouvelle-Espagne un mal épidémique que les naturels appellent *matlazahuatl*, et que quelques auteurs ont confondu avec le vomito ou la fièvre jaune."
—HUMBOLDT.

Both Clavigero and Humboldt are of the opinion that the epidemic in question was not yellow fever, for the following reasons:—

1. The epidemic, *matlazahuatl*, attacks exclusively the native or ancient Indian race.
2. The European races and their descendants were not attacked by this fatal epidemic (*typhus mortel*).
3. Yellow fever attacks strangers, Europeans, and their descendants.
4. Yellow fever rarely attacks the ancient Indian race.
5. The principal seat of yellow fever is in the maritime region, directly on the coast in the *tierra caliente*, where the climate is excessively hot and humid.
6. The *matlazahuatl* prevails in the interior, on the central plateau, in excessively cold and dry regions, more than 1000 feet above the sea, and high above the *tierra caliente*.

Humboldt is of opinion that the *matlazahuatl* extended to New England, carrying off nineteen-twentieths of the aborigines in 1614, thus making way for the Puritan colonies.

It is not known at what time yellow fever first appeared at Vera Cruz, or even on the continent of America. Antonio de Ulloa gives the following account:—

“No se havia conocido en Cartagena, y su costa el vomito prieto hasta los años de 1729 y 1730: en el primero disminuyó en mucha parte las Tripulaciones de los Navios de Guerra, que Comandaba Don Domingo Justiniani, y estaban alli de Guarda-Costas; las quales experimentaron este Accidente en Santa Marta: siendo terror de los que quedaron vivos el estrago, que havia hecho en los muchos, que murieron.” (The black vomit was not known in Carthagen, or on the coast, until the years 1729 and 1730. The first time, it thinned the crews of the ships of war, under Don Domingo Justiniani, which were there for the protection of the revenue. They encountered this affliction at Santa Martha, and it remained the terror of those who survived the mortality.)—ULLOA, tom. i. lib. i. cap. 5.

Speaking of the diseases of Guayaquil, Ulloa says:—

“Además de esta enfermedad, que es la mas comun, se ha experimentado tambien la del vomito prieto desde el año de 1740, en que haviendo llegado la armada de galeones del *sar* retirandose de Panamá por causa de la guerra para asegurar el Tesoro en las Provincias de la Sierra, se padeció la primera vez esta epidemia, y murió much agente: assi de la que llevaba la misma armada, como de la forastera, que se hallaba alli, y algunos patricios aunque muy pecos. La ocasion, y circunstancias de este accidente ha hecho creer, que lo introduxeron los mismos de la armada hallandose infestados de él, desde Panamá, y juntamente inferir, que se contrae de unos à otros: pues el clima, que hasta entonces no lo havia causado en tantos forasteros, como por él trafican, no se lo huviera participado entonces, si los hálitos de los yà picados no huviesen introducido la malignidad” (Besides this disease [intermittent], which is the most common, that of the *black vomit* has been known since 1740, in which year arrived the fleet of galleons from the south, retiring from Panama, in consequence of the war, in order to protect the treasure in the provinces of the Sierra, when this epidemic afflicted for the first time, and many persons died, as well of those who were in that fleet as of strangers who chanced to be present, and some natives, although of them very few. The occasion and the circumstances attending this affliction have caused the belief, that it was introduced by the people of the fleet, who had found themselves infected with it from the time they left Panama; and the inference was, also, that it is to be contracted one of another; since the climate, which, until that time, had not produced it among the many strangers who traffic thither, could not have given it them, if the clothes of those already stricken had not introduced the disease.)—Tom. i. lib. iv. cap. vi.

Brantz Mayer remarks:—

“It is said that, in the early period of this country, Vera Cruz was not so sickly as of late years; and that, although there were occasional attacks of violent fever, it was not until 1699 that the *black vomit* made its appearance. In that year an English vessel arrived with a cargo of slaves, and with them came this fatal disease.”

Clavigero affirms that yellow fever is of recent origin, and that it did not appear much before 1729. He says:—

“El vomito prieto, o negro, que tambien parece enfermedad endemica, es bastante moderno, y solo se padece en algunos puertos de la zona torrida, frecuentados por los Europeos. Los primeros que lo esperimentaron fueron unos marineros de buques Europeos, que despues de los malos alimentos de la navegacion, comian en aquellos puertos con exeso las frutas del pais, y bebian aguardiente. D. Antonio Ulloa asegura que en Cartagena, uno de los puntos mas insalubres de America, no se conocio el vomito antes del año de 1729, y

empezó en la marineria Europea de la escuadra que aportó allí, mandada por D. Domingo Justiniani."

I am indebted to Buckingham Smith, Esq., late Secretary of Legation to the Republic of Mexico, for the following interesting history of the disease, in the Spanish language, by Don Manuel de Viya, one of the oldest and most respected citizens of the republic, who has long resided at Vera Cruz. The translation is what follows :—

"The disease called yellow fever (*fiebre amarilla*), known in America by the name of *vomito prieto*, dates its appearance at Vera Cruz from the latter end of June, 1794, at which time arrived Don Miguel de la Grua Talamanca, Marquis of Branciforte, in the ship of war Europa, of 74 guns, commanded by Captain Don Jose Valdes. The ship had sailed from Carthagena, in the Mediterranean, where there had just arrived another ship, El Miño, just returned from Constantinople, where she had been on the duty of taking out an ambassador, or *chargé d'affaires*. Although at the time of the arrival the pest was known to be in Turkey, no precaution was taken to put the Miño in quarantine, so that it infected the bay in which was the Europa, which, in a few days, went to Cadiz to receive the viceroy on board; and, although the disease did not show itself during the voyage, on her reaching Vera Cruz it fully appeared in the hot weather, the captain, Valdes, being one of the first victims of it, with several officers and many of the crew. As the disease had never been known in Vera Cruz until this time, the physicians and population, who until then had not seen or heard of it, were terrified at its character and its ravages. They called it the *vomito prieto*, because of the colour of the corrupted blood which the sick threw up from the stomach. At that time there happened to be at Vera Cruz, passing through, one Don Xavier de Balmis, who had been sent by the Court of Madrid to spread the vaccine matter in certain places in the Americas and in the Philippine Islands, who, giving himself the full importance of a physician, was not above a charlatan; and who, with an air of assurance, wished to have it believed that in his visit to Asia he had had an opportunity of making himself acquainted with the disease, and that he knew how to treat it; but what he accomplished was only to kill some persons for whom he was called to prescribe. In one house were the captain and the purser of the ship with severe fever; Balmis said that the former would recover and that the latter would die. The doctors all thought otherwise, and so it turned out, for the purser escaped with his life, and the captain died. The captain's death was universally regretted, for he was highly esteemed as an officer in the Spanish navy, and was also of a distinguished family."

"It may be mentioned that in 1795 the fever went to Havana and other places, where it has since become endemic. With surprise, it was remarked when it came here for the first time, in 1794, and it was the same afterwards, that it did not attack the natives of Spain, or of America, who were acclimated. The merchants who had lived some time in Vera Cruz escaped, as also in Cadiz, when the disease appeared there. The natives of Vera Cruz never have it, even after an absence of years, and no instance is known of their being attacked by the dreadful disease while at other places."

The foregoing narrative of Don Manuel de Viya is probably incorrect in some particulars: 1. In regard to yellow fever being brought from Turkey by the Miño. 2. In regard to the Europa. It is not probable that the contagion was received from the Miño in the bay of Carthagena, Spain; and that it remained dormant so long as to enable her (the Europa) to make a voyage to Cadiz, receive the viceroy, and land him at Vera Cruz before the disease would show itself. 3. In regard to the yellow fever being seen

for the first time at Vera Cruz in 1794. An aggravation of the disease probably occurred in that year, the yellow fever being also very severe in many portions of the United States at the same period of time; and for many years previous it may not have been seen to any great extent at Vera Cruz, thus creating the impression that the disease was first seen when it broke out with such violence in the epidemic of 1794.

It is an interesting fact that the malignant yellow fever of 1794 was not taken by the natives, nor even by acclimated foreigners. Neither have such persons taken the disease in subsequent epidemics. The fact is worth noting when we come to the question of contagion.

The opinion of Humboldt is probably correct, that the same physical causes must have produced similar results, as at the present day; and that yellow fever must have been known as soon as the coast became settled by Europeans, who at first proceeded rapidly to the higher regions of the interior.

According to Humboldt, the extreme limit of yellow fever between Vera Cruz and Mexico City is at Encero, 928 metres, or nearly 3,045 feet above the level of the sea, where the oak grows. But little of the disease, however, is seen above the National Bridge, if ever above that point.

Identity of the Yellow Fever of Vera Cruz with that of the United States.—Humboldt, from the descriptions of Makittrick, Rush, Valentin, and Luzuriaga, is of opinion that the yellow fevers of Vera Cruz, Carthage, Havana, and the United States, are identical.

“Il est certain que le *vomito* qui est endémique à Vera Cruz, à Carthage des Indes et à la Havane, est la même maladie que la fièvre jaune qui, depuis l’année 1793, n’a pas cessé d’accabler les habitans des Etats-Unis.”

Humboldt’s opinion is undoubtedly correct, for the yellow fever of Vera Cruz is certainly the very same disease as the yellow fever of Florida, Mississippi, Louisiana, and Sullivan’s Island, near Charleston, S. C.

Contagion.—If yellow fever in the United States be the same disease as the *vomito prieto* at Vera Cruz, of which there is no doubt, then it will follow, that if one is contagious so is the other, *et vice versa*. Humboldt asserts, roundly: “Il est incontestable que le *vomito* n’est pas contagieux à Vera Cruz.” Again: “Sur le continent de l’Amérique équinoxiale, la fièvre jaune n’est pas plus contagieuse que ne le sont les fièvres intermittentes en Europe.” He quotes Makittrick, Walker, Rush, Valentin, Miller, Wistar, Blane, Cathal, “*et d’autres médecins distingués*,” who have practised in the Antilles and in the United States, to prove that the disease is not contagious in either of those countries. But he thinks that the yellow fever is contagious in other countries:—

“Enfin, en avançant au nord-est, en Espagne, nous trouvons la fièvre jaune indubitablement contagieuse, comme le prouvent les exemples des personnes qui s’en sont préservées par l’isolement quoiqu’elles fussent au milieu du foyer du mal.”

In relation to the contagiousness of yellow fever in the United States and Vera Cruz, I have no hesitation in giving a decided opinion; which is, that it is not contagious. It is desirable to be understood; and I mean to affirm, in the most positive language, that the yellow fever of the United States and the *vomito prieto* of Vera Cruz are one and the same disease; and that there is not the shadow of a reason for believing that it is contagious—always allowing an ample margin for difference of opinion, the contagionist and the non-contagionist having an equal right “to worship according to the dictates of his own conscience.” The yellow fevers of St. Augustine, Florida, 1841; Pascagoula, Miss., 1848; Charleston, S. C., 1849 and 1852; and Sullivan’s Island, near Charleston, 1852; were not imported, but were indubitably of domestic origin—they originated in the places mentioned, and the evidence in support of the assertion may be given hereafter.

Of the fevers of Spain I know nothing. I know nothing of the Andalusian fevers, Gibraltar fever, the fevers of Barcelona, Cadiz, Malaga, Seville, or Xeres; I know nothing of the Havana, St. Domingo, Barbadoes,¹ or Jamaica fevers; nor do I know more of the African typhus, Bulam fever, jungle fever, Bengal fever, mal de Siam, Ascension fever, Boà Vista fever, or other Eastern fevers, never having seen them. It may be that the Eastern fevers are not yellow fever; that they are all sorts of malignant fever, as remittent, congestive, typhus, &c.; and that Humboldt placed too much confidence in a celebrated commission; but of all this I know nothing. One thing, however, I must be allowed to judge of somewhat, the nature of yellow fevers in the United States and at Vera Cruz, having seen them. Seeing is believing.

It is amusing to read Humboldt on one point: “La Havane, Vera Cruz, et les ports des Etats-Unis, s’accusent mutuellement de recevoir l’un de l’autre le germe de la contagion.” This is human nature the world over, for our neighbour’s farm or plantation is always more insalubrious than our own; and it is well that it should be so, for the conviction conduces to happiness.

“There is nothing more difficult to define, according to the common use of the term, than a good climate. It means a place where the well are robust and hardy, or where few violent diseases are known, or where the yellow fever does not rage, or where not more than half the people have the fever and ague; in fine, almost any place that has any resources, and where lands or lots will sell in market. For, however people may express themselves as to the salubrity of places in their vicinity, they never acknowledge their *own place* to be unhealthy as long as anybody has life enough left to deny it. Let any one deny this who has travelled through our country, if he can. Let him refresh his recol-

¹ One hundred years ago, Hillary says, in his work on the *Diseases of Barbadoes*: “I never could observe any one instance where I could say that one person was infected by, or received this fever from, another person who had it; neither have I even seen two people sick in this fever in the same house at or near the same time, unless they were brought into the same house when they had the fever upon them before they came. From whence we may conclude, that it has nothing of a contagious or pestilential nature in it; and that it is a very different fever in all respects, as it will more fully appear hereafter.” P. 107. From this passage it appears that Hillary was not a contagionist, and his testimony is valuable.

lection as to the number of places that have been resolutely pronounced healthy by *one* half, while the *other* half of their inhabitants were sick. St. Louis has been declared healthier than Boston, Cincinnati than Albany, and, to cap the climax of falsehood, New Orleans has been claimed to be healthier than *any* northern city."

Causes of Yellow Fever.—Malte-Brun says: "L'humidité des côtes occasionne des maladies dangereuses aux quelles sont exposés les Européens non acclimatés." Humboldt gives the following causes of the disease at Vera Cruz: 1. Crowding of the population. 2. Bad ventilation. 3. High temperature. 4. Humidity. 5. Putrid emanations, or miasmata. To produce the perfect development of yellow fever, the following conditions seem to be necessary, viz.: 1. The place must be in a low latitude, almost always below 35°. 2. A low country. 3. On or near the sea. 4. Long-continued heat. 5. A high dew-point. 6. Humidity. 7. Dense population. 8. Animal and vegetable decomposition. In view of these causes, is it necessary to call in the aid of contagion? May we not ask, with Humboldt: "N'est-il pas plus facile d'admettre que l'atmosphère de Vera Cruz contient des émanations putrides qui, respirées pendant le plus court espace de temps, portent le désordre dans les fonctions vitales?"

Diagnosis.—This is most important to the patient first attacked, and it is of the greatest importance to him at the very first visit of the physician, for on this his life may depend. After the second or third stage has begun, of what use is it to the sick person for the physician to find out, for the first time, that the disease is yellow fever? The case may stand as a beacon, but the patient is launched into eternity. What are the diagnostics? the pathognomonic symptoms? For on them the salvation of the first patients in an epidemic may depend. Louis gives the symptoms at the commencement of the disease, thus:—

"Headache; a pricking sensation in the eyes, which become almost immediately red and suffused; pains in the limbs, and more or less marked febrile symptoms. These symptoms continue. To them are joined pains in the epigastrium; nausea; spontaneous vomitings some twelve or fifteen hours afterwards, rarely earlier, and sometimes even later. Anxiety and restlessness are mentioned in the first stage, and then M. Louis goes on to the third and fourth days, when the diagnosis is, unfortunately for the patient, but too easy."—*Translation of M. Louis, by Dr. Shattuck, p. 287.*

Headache is common in fevers, but if M. Louis regards the intense pain in the frontal and orbital regions, so common and diagnostic of yellow fever, then we have two marked pathognomonic symptoms, including the "pricking sensation in the eyes, which become almost immediately red and suffused." Pains of the limbs are common in all southern fevers; pains in the epigastrium are not uncommon in all fevers, and they are not always present in yellow fever; "nausea and spontaneous vomiting" are present, or not, according to circumstances. Then, according to M. Louis, the only diagnostics are, in the early stage, intense supraorbital pains, and redness and suffusion of the eyes.

Having been at the pains to look over several authors on yellow fever, I can find no other pathognomonic symptoms, among a host of symptoms common to all fevers.¹

Therefore, below 35° N. latitude, in a low country near the sea, in long-continued heat, a high dew-point, humidity, with other apparent causes of fever, whenever a physician is called to a patient early in the disease, the earlier the better, with these pathognomonic symptoms—severe pain in the frontal and orbital regions, pain and tenderness on slight pressure of the globe of the eye, and redness and suffusion of the eyes, he must be on the alert, and it is well for him to regard the very first case as yellow fever. If, at the same time, there is a dusky hue of the skin, much the most common in persons with dark complexion, he may be certain that he has no ordinary fever to contend with, and he may as well name the disease *yellow fever* without delay. Never wait until a second visit, for by the time that is made the fate of the patient may be hopeless.

Vera Cruz in 1847.—Immediately after the surrender of the city, preparations were made for establishing a general hospital in the old Franciscan convent, San Francisco, near the gate leading to the mole, consisting of a very large church, a smaller church, or chapel, and numerous suites of upper rooms around the convent plaza—a convenient pile of buildings, facing the sea, well ventilated, with good water. Bullock speaks of this water, in 1823, as the best in the city. To organize this hospital was no small undertaking. There was not a single steward except invalid and incompetent ones; an invalid ward-master; the employed physicians were almost universally incompetent; no well men were left for cooks and nurses when the army marched into the *tierra templada*; there was not a single kitchen, table, bench, bunk, privy (with scores of dysenteric patients), chamber utensils; in a word, there was nothing but the miserable sick; and, under these circumstances, the machine had to be put in motion. *Hic labor hoc opus fuit.* But this discouraging state of things was gradually removed, as the following extracts from my Notes will show:—

"*April 7th, 1847.* Took charge of the general hospital this morning; Gen. Twiggs's division to march this afternoon, and his sick are coming in rapidly. Bales of blankets were opened and distributed among them, and some boiled rice for food.

"*9th.* All the sick of Gen. Patterson's division received, principally dysenteric patients.

"*11th.* Troops leaving and sick arriving.

"*12th.* Hospital filled with sick. Hot weather from the first of the month.

"*13th.* Gen. Worth's division marched, and the whole of his sick had to be provided for.

¹ Hillary gives some of the symptoms when the patient is first seized, which he says are soon "attended with acute darting pains in the head and back; a flushing in the face, with an inflamed redness and a burning heat in the eyes; great anxiety and oppression about the præcordia; these and the burning heat and pain in the eyes are the pathognomonic symptoms of this fever especially, &c." Hillary's description applies to such cases as could scarcely admit of doubt.—*Diseases of Barbadoes*, p. 108.

"15th. Hospital getting in better condition.

"17th. The sick of Gen. Quitman's division were brought in this afternoon; and it was found necessary to take possession of the Mexican Military Hospital, San Carlos, except the small portion occupied by a few wounded Mexicans.

"This hospital continued in our hands as a branch of the main hospital.

"18th. Hospital getting in better order."

From this date, more or less sick were admitted daily.

Yellow Fever of 1847.—This did not break out so soon as might have been expected, considering the hot weather, the filth accumulated during the siege, and the dissipation of our troops after the surrender of the city.

"May 4th. For two or three days severe congestive fever has been common among labourers in the quartermaster's department—Irishmen, and very dissipated. From the first of the month malignant fever may be said to have commenced. These cases were generally very severe and rapidly fatal. Cold limbs, profuse cold sweat, feeble pulse, stertorous respiration, vibices, &c., were quite common, even on their entrance into hospital. These hired labourers were exposed to the sun and rain; they had more money to spend, and were less under restraint and discipline than the soldier; were very dissipated; and did not report sick under two, three, or four days after the attack, while the sick soldiers reported immediately.

"7th. Very warm weather. To-day a soldier died of the vomito. He was a volunteer, and very sick when he came to the hospital; had been wandering about the country; might have been a deserter, and might not, as no account could be given of him, and he was moribund when admitted. This was the first case of real yellow fever, and from this time it soon became prevalent."

Treatment of the Vera Cruz Yellow Fever in 1847.—In my report to the Surgeon-General for the quarter ending 30th of June, are the following remarks: "In the treatment of yellow fever, I regard quinia as the sheet-anchor, and am abundantly satisfied with its effects in the yellow fever of Vera Cruz. When the yellow fever first broke out, in May, it was with violence, and I was in the habit of combining the sulphate of quinia and calomel in several of the first doses, at the same time employing free cupping, leeches, in many cases general bleeding, sinapisms, mustard pediluvia, &c. I found that many of my patients were more susceptible to the mercurial influence than had been anticipated; and, in consequence, some of them had severe ptialism. All those who had ptialism recovered, though attacked ever so severely; not one died. This was satisfactory, notwithstanding the disagreeable attending circumstances."

"During a part of May and June, general bleeding was resorted to in almost every case, there being strong arterial action, severe pain of the frontal region and eyes, &c. It answered a most excellent purpose. Then came a dose of calomel and quinia, &c. &c."

The above is an outline of the general treatment, but it may be advisable to enter into particulars.

It was a standing rule in the Vera Cruz General Hospital that, when a patient was brought in with yellow fever, the warm mustard bath, or pediluvium, was to be used without delay, even before a medical officer could

visit him; and if there was coldness, chilliness, gastric irritation, &c., the patient was enveloped in sinapisms—to the epigastrium, cervical and lumbar spine, wrists and arms, legs and feet, &c. Immediately after, if the stomach were quiet, ten or fifteen grs. cal., and fifteen or twenty grs. of sulph. quinia; then cups were freely applied to the ligamentum nuchæ, lumbar region, epigastrium, and perhaps to the whole length of the spine. But if the stomach were irritable, previous to giving the quinia and calomel, and after the application of sinapisms, free cupping to the epigastrium, &c., was employed, and enemata of chlorid. sodium and water were used. If the stomach was not particularly irritable, in two hours after the first dose of calomel and quinia, a large dose of ol. ricini, or of ol. olivar. was given, followed at the proper time by a cathartic enema, so as to produce free evacuations as soon as possible. If the stomach was irritable, the oil was not given, but the enemata were repeated *pro re nata*—say every hour or two for a time—and of these none were more useful than the simple one of common table salt and water, assisting the medicine, and allaying gastric irritability beyond any enema I have ever employed. Whether the stomach were irritable or not, in three or four hours after the first dose of calomel and quinia, another was given, say five or ten grs. calomel, and ten or fifteen grs. quinia, according to the state of the case; and similar doses were given every four hours until free evacuations were procured, when the calomel was omitted, or continued, at discretion. Sometimes the calomel was continued in combination with quinia, in such doses as were deemed advisable, even to the second or third day, but not generally. Much depended upon circumstances. On account of the perturbing treatment of the first day, as well as the nervous irritation, restlessness, and anxiety of mind, always more or less on the first day, diminishing as the disease advances, one-quarter to one-half grain sulphate of morphia was generally added to the calomel and quinia at about the hour of tattoo, *hora somni*, or about nine o'clock P. M.; and it was not uncommon to give a dose of morphia at night until convalescence was established. It was not very uncommon to give morphia, quinia, and calomel together during the first day. This course, modified to suit the different cases, constituted the main treatment for the first part, or stage, of the disease.

The effect of the above remedies is easily seen. The baths and sinapisms equalize temperature and the circulation, and subdue gastric irritation. Cupping has the same effect in a powerful manner, and all have an action on the nervous system. It is also seen that importance is attached to the early and free evacuation of the bowels, and it was always the intention to procure five or six passages in as short a time as practicable after the first visit; for a decided action of this kind not only subdues the present irritation of the stomach, but (I am inclined to think) prevents nausea, retching, and vomiting at a later stage of the disease, when black vomit is so apt to supervene. For this object, calomel and oil are the best, the first being easily retained by the stomach, and the last (if retained) effectual.

The combination of calomel and quinia, besides being the surest and best cathartic, has a wide influence on the whole system. It acts upon the skin, the liver, the kidneys, the nervous system, and probably upon the blood. Many articles of the *materia medica* are enhanced in value and rendered more efficacious by combination; and this is especially true of calomel and quinia in most southern fevers, and in none more than in that scourge, yellow fever. General bleeding is not often necessary in yellow fever, unless there is a bounding pulse, great heat, &c., for the quinia lowers the pulse, diminishes the heat of skin, and brings the system to somewhat of a healthy standard in a surprisingly short period of time; and then the mercurial action takes effect, the chylopoietic viscera having been already thoroughly acted upon. The system is now in a condition to *respond* to the mercurial, being lowered to near the healthy standard; and I well remember to have read an interesting paper on the subject by Dr. Ansel W. Ives, of New York, published many years ago, which inculcates that the mercurial influence cannot be induced unless the system is in a condition somewhat analogous to health; that if the circulation, &c., be above the healthy standard, lowering measures are necessary; whereas, on the other hand, if the system be much below the standard of health, supporting measures are indicated. Furthermore, the mercurial influence (downright ptyalism is not meant in all cases) prevents relapse, or secondary fever, so common in the more advanced stages of the disease, which is exceedingly dangerous. A recent writer on yellow fever, an American physician, name not recollected, admits that quinia will surely break up the first stage of the fever, but he says that relapses are frequent. Hence, in my opinion, the value of calomel with quinia; the combination prevents the secondary fever. It is essential that the treatment should commence early, within two, three, four, or five hours from the attack; the earlier the better. This mode of treatment, or a similar one, is termed, in New Orleans, the "abortive method."

Why should we commence this treatment early? For the best of reasons, *disorganization has not begun*. Dr. Fenner, of New Orleans, says:—

"In the early stage of yellow fever the derangement of the system is *entirely functional*, and consists chiefly in *lesion of innervation*. In the advanced stages it is altogether a different affair—*organic lesions have then taken place, and the blood is altered*."

Hence the necessity for early treatment, for the delay of a very few hours may lose the patient.

Many contend that mercurials act perniciously in yellow fever, by dissolving the fibrin of the blood. But the uninterrupted progress of the disease, for only a few hours, appears to me to have more effect in producing dissolution of the blood than any rational remedy could possibly have. We have a tremendous disease to deal with; and desperate diseases require vigorous remedies; in the language of the well-known aphorism—*Ad extremos morbos, extrema remedia exquisita optima*. I have never known a case of yellow

fever prove fatal after ptyalism, whether produced accidentally or intentionally. The ptyalism might have been very unpleasant, sometimes even causing one to regret that the remedy had been carried so far; but, after all, I have never known one of these cases to terminate fatally; a result which could scarcely be expected if mercury has such a powerful effect in producing a dissolved condition of the blood in yellow fever as has been represented. It will be recollected that Dr. Chisholm used the following impressive language:—

“Let it never be forgotten, that at whatever period of the disease salivation is excited, whether the supposed signs of putrefaction have appeared or not, the accession of it is the certain signal of cessation of disease, and of returning health.”

It is to be distinctly understood that I am no advocate of ptyalism, or the profuse administration of mercurials as practised in many parts of our country. But in so serious a disease as yellow fever, no particular pains is taken to avoid, or produce, salivation; the intention being to administer the remedy judiciously and efficiently so as to control the fever and procure free evacuations in the first stage. It appears to me that mercurials are powerful auxiliaries in the first stage of yellow fever; and it may appear that some of our physicians have discarded a valuable remedy on account of an imaginary evil.

A few other remedies may be noticed. As a general thing, venesection is not practised by the profession, unless in particular epidemics, or in particular cases. Much depends upon climate, season, constitution, &c. As a general rule, venesection is not proper; but when the constitution is robust, skin hot, pulse full, or bounding, and there is intense pain of the head, one free bleeding may be of great service, especially when immediately followed by a full dose of calomel and quinia, cups, sinapisms, &c., as before enumerated. General bleeding was never repeated at Vera Cruz. In May and June, 1847, weather hot and dry, the patients recently from the north, and robust, with hot skin, full pulse, and severe pains of the head and spine, one free venesection was found beneficial.

In the month of June, a quartermaster's clerk, of good constitution and habits, came to the hospital at nearly ten o'clock P. M., just as I was about leaving for the night, and told me that if he were not immediately relieved he should die, or become “crazy” before morning, and my own opinion coincided with his. He had been ill but a few hours: bounding pulse; hot and dry skin; eyes brilliant, suffused, and extremely tender on slight pressure; intense pain in the frontal and orbitar regions; in fact, the case more resembled a sudden attack of phrenitis than any other disease. An arm was corded and a vein opened at once, but the blood did not flow to suit me; the other arm was, therefore, bound up, and a large incision made into the vein, from which the blood flowed *pleno rivo*, and the patient was soon bled *ad deliquium animi*. As soon as he was somewhat recovered from the syncope, twenty grains of

calomel, half grain of sulphate of morphia, and twenty-five grains of sulphate of quinia were given; then leeches were applied to the forehead, and cups to the epigastrium and whole length of the spine; at one o'clock, ten grains of calomel and fifteen grains of quinia were administered; and five grains of calomel and ten of quinia at sunrise next morning. Visited the patient before 8 A. M., found him better; but little fever; pulse soft; slight pain of the head, complains of buzzing, deafness, &c., signs of quininization; skin quite yellow. The medicine had operated freely as a cathartic. A modification of the same plan of treatment was continued through the day, and blisters were applied to the epigastrium and over the cervical spine. The patient was severely salivated; he was put on tonics, chicken broth, beef tea, wine, ale, &c., and was restored to perfect health.

Such, as above detailed, was the character of yellow fever in May and June, though few cases were so violent as this one; and hence the benefit derived from one free bleeding early in the first stage. By the time the fever was rife we had picked up several good men for hospital stewards, most of whom had the disease in May and June. These being our right-hand men, they were taken in charge by myself, and we had the satisfaction of seeing them recover. The attendants were also sick, but generally recovered. The reason of this success is obvious, no time was lost. Our worst and most unfortunate cases were those from the regimental hospitals, some two or three miles from the city.

One evening in May, as I was going the hospital round of duties, a division hospital steward, a Frenchman, begged me to assist him, as he felt very sick. He stated that the physician in charge of his division, an employed French resident, was absent; that he (the doctor) was very good in diarrhoea and dysentery; but that he did not seem to understand the treatment of such awful fevers as were prevalent, for ptisans did not answer, &c. The steward was fresh from the north, had a good constitution, temperate, pulse full, skin dry and hot, intense pain in the usual regions, &c. He was freely bled, and the usual plan pursued; but slight ptialism was induced; and in a reasonably short period of time he recovered, afterwards doing good service among the sick. He came out of Mexico with our army, in 1848.

About the first of July, the men having become reduced by sickness and the excessive heat in April, May, and June; the rainy season having set in, and the weather become cooler; the fever changed its type, and general bleeding was almost wholly abandoned.

Cathartics have already been sufficiently alluded to; and after the first free evacuations, they were scarcely ever employed. After the first free passages, cathartics and laxatives are generally improper, both on account of the rapid progress of the disease, and the tendency to irritation of the stomach; and to prevent and allay gastric irritation, and keep the bowels open, enemata are much the best. Of these we have a selection, terebinthinate, &c. &c.,

but a solution of common salt in water, was found to answer almost every purpose, and was much the most convenient in the immense hospital.

Diuretics.—Although the action of the kidneys is sadly deranged in yellow fever, this class of remedies is utterly worthless. In certain states of the system, especially in a miasmatic region, quinia is the most efficacious diuretic I have ever known; as in the Florida fevers of 1839, '40, and '41, when a scanty, high-coloured urine was often changed, in the course of one hour after the administration of quinia, into a profuse, pale, watery discharge, the pain in the spinal column being at the same time greatly alleviated, or entirely disappearing. In the miasmatic fevers of the south, quinia is the best diuretic that can be employed.

Diaphoretics.—These, as a class of remedies, are of little use, and the best is the quinia and calomel, with warm blankets. Although spacious apartments and free ventilation are essential, in no disease is it more necessary to guard against currents of air and sudden chills than in yellow fever; and it is better to keep the patient well covered with a blanket, or coverlet, even in summer, than to risk the least exposure. Indeed, patients are commonly quite comfortable under a thick blanket, even in hot weather; and in cold weather, or when the Vera Cruz northerners came on, an abundance of bed-clothing was necessary. Baths and sinapisms have been mentioned; bottles of hot water, hot bricks, &c., were used as required. The diaphoretic most to be depended upon, however, is calomel and quinia. I have often seen a patient with full pulse, hot and dry skin, and intense pain of the head, after the first decided dose of this combination, and in the course of two or three hours, have a soft pulse, a moist and cool skin, and little or no pain of the head. In this state, the patient must be well covered, and carefully guarded from sudden chills.

Leeches were provided in abundance, and were used freely—applied to the temples, forehead, and epigastrium—but they are not essential; and cups to the cervical and lumbar spine, and to the epigastrium, will answer every purpose for which leeches are employed.

Ice was provided in abundance, and is highly praised; small pieces were often administered with advantage, but iced mucilage, given often and in small quantities at a time, was the best. For the intense pain of the head, I have never found ice of much use, and generally the pain was aggravated by its application; vinegar and water, or spirits and water, with a hot and dry forehead, answered much the best. Calomel and quinia, however, in a short time, do more to relieve the pain of the head and spine than any other remedies; often changing, in an hour or two, the intense pain into a dull aching, buzzing, or deafness, wholly different from the original pain. This change is principally due to the action of the quinia.

From the foregoing statement it appears that quinia is considered a main remedy in the first stage of yellow fever; but care is required that it be not carried too far. Some cases will tolerate the free use of it one day, some two

and even more days; but when the patient is fairly put under the quinia influence, it is best to gradually diminish the quantity; not too rapidly, however; for, if withdrawn suddenly, secondary fever may succeed, which always places the patient's life in jeopardy. We are also called to some cases in the second stage of the disease, in which large doses of quinia cannot be expected to prove beneficial, but must be avoided. There are some cases in which it can be pretty certainly predicted, from the commencement, that quinia will be of little use, as when all the symptoms are grave, with yellowness and cold surface, like very many cases in the malignant epidemic at St. Augustine, Florida, in 1841. These are always dangerous cases, however treated. When the skin is quite yellow on the first visit of the physician in the early stage, quinia is not apt to effect much, and the earlier in the disease the yellowness appears, the more dangerous; for there is reason to fear more or less disorganization, and the blood is changed. Much depends upon the circumstances of the case. Perhaps the best course in such cases is to give at first calomel, oil, and enemata, so as to move the bowels freely as soon as practicable, afterwards using mild means, as small doses of quinia, or quinia and calomel, ptisans, enemata, &c.; and it is to such cases that the French and Spanish (Mexican) treatment seems to be best adapted.

The administration of immense doses of quinia is not advisable, and it is my own opinion that twenty grains is nearly the maximum dose, for it certainly is as large a dose as can generally be given with advantage; and the sixty, eighty, and one hundred grain doses we hear of, if the patient is susceptible to any impression, or the article is a good one, must surely prove injurious, it may be said *poisonous*. Granting that such enormous doses are not poisonous, experience shows that fifteen or twenty grains will effect as much in southern fevers, as forty or sixty grains. In those cases which do not rapidly run to a fatal termination, ten and fifteen grains are as efficacious as larger doses, and are much less apt to produce unpleasant effects. At Vera Cruz, the dose of quinia varied from ten to twenty grains, and I rarely thought of exceeding the last-mentioned quantity. We are speaking of the pure and unadulterated sulphate of quinia, not of that which is "made to sell."

Quinia, then, is considered by many members of the profession a valuable remedy in yellow fever. In the *Transactions of the American Medical Association* for 1848, pp. 79, 80, the following remarks occur:—

"Concerning the treatment of yellow fever, we have not found much that is reliable. The recommendation of quinia, coming from New Orleans, last summer, and Dr. Nott's suggestions of creosote, require confirmation."

Dr. Harrison, of New Orleans, same volume, p. 108, says: "The epidemic did not differ from others, except in this: sulph. quiniæ was more liberally used than formerly, and generally with the best results, according to the information I have been able to obtain from those in whom I have confidence."

The New Orleans physicians are generally in favour of the free employment of quinia in the first stage of yellow fever. My own testimony is decidedly in its favour, having freely used it in large doses in all southern fevers since 1839; and in yellow fever, in 1841, during the epidemic at St. Augustine, Florida; Vera Cruz, in 1847; Pascagoula, Miss., at the large encampment, 1848; and never with more satisfaction than in the recent severe epidemic (1852) on Sullivan's Island, in Charleston Harbour, S. C.

Dr. Stevens says that the French physicians of Martinique commenced giving the sulphate of quinia in yellow fever, with considerable success, as far back as the year 1823.

"The sulphate of quinia, like all the other alkaline salts, reddens the blood out of the body; but it possesses this power in a much inferior degree to the muriate or carbonate of soda, the nitrate, the chlorate, or the carbonate of potass. The sulphate of quinia has been long used, both by myself and others, in the islands of St. Thomas, St. Croix, &c., and we have found it a useful remedy; but we could only trust to it during the convalescence."—STEVENS *On the Blood*, p. 394.

The practice in the West Indies with this article was entirely during convalescence, whereas the physicians of the United States employ it freely in the very first stage. Even on the principles of Dr. Stevens, sulphate of quinia is a valuable remedy; but, if useful after the blood has become dissolved, why not commence the treatment early, while the blood is rapidly going into a state of dissolution, not yet, however, in a state of dissolution?

Hillary, one hundred years ago, in his work on the *Diseases in the Island of Barbadoes*, would have rejoiced at the discovery of the sulphate of quinia.

"In these circumstances (the change about the third day) the cortex Peruv. may be thought to be the best, and most likely medicine to succeed: I grant that its well-known efficacy, in preventing or putting a stop to mortification, promises much; but the misfortune is, that this drug is so disagreeable to most palates, and the stomachs of the sick in this disease are so much affected, and so weak, and so subject to reject everything, even the most pleasant and innocent, that they can very rarely take it in any shape, and still much fewer can retain it when they have got it down; so that no stress or dependence can be laid on it; and the only way that I could get a patient to take and retain two doses of the bark in this case, was the extract of it, with a spoonful or two of milk and water, and even thus they could not retain a third dose of it; wherefore, I soon laid aside all future attempts to give it, foreseeing that it would be in vain, and that we should thereby only lose time, not to be recovered, and our patients also, when we might probably save them by another method; and I am told that several others have tried to give the bark in this case, but with no better success."—Pp. 119, 120.

Again, p. 120:—

"The radix serpentaria Virginiana is the next best antiseptic," &c. &c. "Sat easily on the stomach, moderately raised the pulse and fever, which were now sunk too low," &c.

When cupping and sinapisms have done their work, and the transition from excitement to exhaustion is about to commence, or has commenced, epispastics must be freely employed, and they may be used quite early in the disease after sinapisms and free cupping. A large blister to the epigastrium

is almost always necessary, this and the cervical spine being the two most important points; indeed, were it not so very inconvenient to the patient, the whole line of the spine ought to be blistered, and in bad cases it is sometimes essential.

The irritability and irritation of the stomach is the great obstacle to successful treatment, from the beginning to the end of the disease. It is of the utmost importance to quiet the stomach as soon as possible, but the subject has been already alluded to. Even when black vomit has come on, we must not cease our exertions; and two articles have been much praised—ol. terebinth. and creosote. As a general thing, I have not found them of great service in the gastric irritability, and after black vomit has commenced, they are worthless. Indeed, how can they be expected to prove beneficial? for disorganization has taken place, the inner coat of the stomach being, at various points, excoriated, inflamed, softened, and ulcerated. In this condition of the stomach, may not these remedies sometimes prove injurious?

In the second stage, which may commence on the second or third day from the attack, after quinia and its combinations have done their best; pulse soft, frequent, or nearly natural; heat abated; skin soft, nearly natural, or more or less clammy; yellowness, &c.; and when it is uncertain if the black vomit will come on or not, an expectant method of treatment is proper. In this state of things, mucilages, arrowroot, sago, animal jelly, chicken broth, beef-tea, wine, ale, &c., in small quantity, and even brandy when the patient prefers it, may be given; for it is to be recollected that nothing is gained by forcing these things on the patient when they are disagreeable to him. Even after the first twenty-four hours, if the patient can be prevailed upon to take a spoonful of nice chicken broth, or beef-tea, or any other little nourishment he may fancy, every two or three hours, it may be of great importance, for the starvation principle in fevers is now pretty well exploded. Let the patient take what is most agreeable, provided it is not obviously improper.

In this weakened state, preceding and including convalescence, great caution is necessary, and but little medicine is required—as very moderate doses of quinia, small quantities of the infusion of serpentaria Virginiana, enemata, &c.; and, in this stage, the following combination has been found exceedingly useful: Mist. camph. (or julep), mist. ammon. carb., āā ʒj; vel ʒij; which may be given every one, two, or three hours, according to circumstances. There is no doubt about the usefulness of this prescription, and of the virtues of carbonate of ammonia in the later stages of yellow fever, which may be accounted for on general principles; but the carbonate of ammonia may act in the way pointed out by Dr. Stevens, on the blood, being a “non-purgative neutral salt, an alkaline carbonate.”—STEVENS, pp. 300, 324, 328. Whatever may be the theory, the facts are certain.

Baron Humboldt speaks of several methods of treatment in yellow fever: *les système de Brown; l'usage du quinquina; les saignées recommandées avec tant chaleur par Rush; les préparations mercurielles, surtout le calomel ou*

muriate de mercure doux, associé au jalap; the ancient treatment *des morceaux de neige*; and, finally, of the Mexican mode of treatment, as follows:—

“On a regardé, pendant quelque temps, à Vera Cruz, les sorbets, le jus d'ananas (*xugo de pina*), et l'infusion du *palo mulato*, vegetal du genre *amyris*, comme des remèdes spécifiques contre le vomito; mais une longue et triste expérience a décrédité peu-à-peu ces remèdes, même chez le peuple Mexicain.”

The Mexican, Spanish, and French method of treating yellow fever in Vera Cruz is entirely with olive oil and lemon-juice, and the infusion and decoction of the *palo mulato*, as stated by Don Manuel de Viya, before quoted:—

“El remedio mas eficaz que se ha conocido por la experiencia, es el uso del limon y del aceite. Tambien el palo mulato. Nada de sangrias, que se acostumbra en Jamaica y en las Antillas.”

A drink made from the *palo mulato* is not disagreeable, and I used it pretty freely with my patients. It is mucilaginous, a little astringent, and perhaps slightly tonic. The Mexican and foreign physicians of Vera Cruz relied entirely on olive oil and lemon-juice, and infusion or decoction of *palo mulato*, but with no great success; for the vomito attacked the Europeans earlier in the season than it did the Americans, and deaths were numerous among them (Europeans) in all parts of the city before we had a case in the general hospital. Indeed, the Mexicans considered us under the special care of Providence during the year. The before-mentioned treatment is universal in Mexico, Havana, and other parts of the world; and, if certain to cure, or to cure as many as any other mode of treatment, it is best to follow it, for it is convenient, and much less troublesome than any other method. I gave the oils and lemon-juice freely, and came to the conclusion that the oil was best without the lemon-juice; but I never dared trust our robust Americans exclusively to this treatment. Why is it that one kind of treatment seems to answer with one people and not with another? It appears to me that Baron Humboldt accounts for the difference in the most satisfactory manner:—

“Les régions équinoxiales de l'Amérique n'étaient visitées que par des Espagnols et des Portugais, deux peuples de l'Europe australe moins exposés, par leur constitution, à sentir les effets funestes d'un climat excessivement chaud, que les Anglais, les Danois, et d'autres habitants de l'Europe boréale qui fréquentent aujourd'hui les îles Antilles.”

And it certainly seems that a native of Spain, Portugal, France, or Italy may recover from yellow fever under mild treatment, which would by no means answer for a native of Great Britain, Ireland, Denmark, Sweden, or Russia.

Diarrhœa and dysentery were prevalent, ran rapidly into the chronic form, and were very fatal. Brantz Mayer says that diarrhœa, dysentery, and vomito are the most fatal maladies at Vera Cruz. Their consideration will be reserved for the great encampment at Pascagoula, in 1848, when hundreds of these cases were brought from Mexico.

Eruptive Diseases—Rubeola and Variola.—These are always troublesome to the military surgeon with new levies. The Texans had measles severely at Monterey. Variola was brought to Lobos Island, when our army was en

route to Vera Cruz, by two transports filled with volunteers, who had to be cut off from intercourse with the rest of the troops ; scattering cases of the disease occurred at Vera Cruz in the summer of 1847 ; and in the first part of 1848 it was necessary to establish a smallpox hospital without the walls of the city.

Variola was introduced into Mexico, according to Humboldt, in the year 1520,¹ and made terrible ravages in 1763 and 1779 ; the epidemic of 1797 was much less fatal, owing to the general practice of inoculation. Of 6,800 persons inoculated at Valladolid, in the bishopric of Mechoacan, according to Humboldt, only 170 died, being exactly 2.5 per cent. In 1804, vaccination was introduced. Humboldt says that the genuine vaccina is found among the cows of Mexico : “ M. Valmis l’a decouvert dans les environs de Valladolid et dans le village d’Atlizco, près de la Puebla, aux pis des vaches Mexicaines.” The ships of the Spanish royal navy carried this boon to mankind to all the American and Asiatic colonies ; in the beautiful language of Humboldt : “ The Indies, for the first time, saw these fleets, with instruments of carnage and death, bear to suffering humanity the germ of relief and consolation.” And this blessing is to be taken from us ! It will require an immense accumulation of facts, more than the world ever saw, to shake our faith in the protective influence of vaccination.

This disease would scarcely have been noticed, but for the strong Gregorian doctrines which seem to be creeping into notice, so much so as to shake the belief of many in the safety of vaccination ; and the occasion permits me to give my humble testimony in favour of vaccination.

A few facts may not be out of place. In the early part of 1842, at Fort Adams, R. I., a mulatto servant of the officers’ mess, who had not been vaccinated, caught smallpox while on a visit, of a few days, in Providence, in the same State. There had not been a single case of the disease near the fort, nor in the city of Newport, about three miles distant. This man attended the breakfast-table on the day of the attack, afterwards put our rooms in order, and just before the hour of dinner I was called to visit him. He remained in his room, by the officers, until the eruption appeared, many persons having been exposed in the mean time ; and on the appearance of the eruption he was removed into a retired room in one angle of the fort. To the time of the eruption, fifteen or twenty persons must have been exposed to the contagion. On the occurrence of this case, revaccination was immediately resorted to in all persons, but without the slightest effect. No other case occurred. One officer informed me that he had been vaccinated but once, when young, more than forty years before ; revaccinated, but without effect. There was in the hospital at this time a soldier who had been injured, but now nearly well ; native of some German city, twenty-five to twenty-eight

¹ Bernal Diaz states it was introduced into Mexico by the Spaniards under Narvaez, about the year 1520, or 1521. Y como veniueros en aquel tiempo con cortés, y dende á diez meses vino Narvaez, y truxo un negro lleno de viruelas ; el qual las pegó á todos los Indios que habia en un pueblo, que se decia Cempoala, é desde aquel pueblo cundió toda la Nueva—España, é ovo grande pestilencia. P.

years of age, vaccinated when about two years old. It appears that the laws of his city are stringent on this subject, every child having to be officially vaccinated, and then the patient is furnished with a printed certificate of the vaccinating physician, and of the mayor, with the seal of the city attached; so that in this case there could be no doubt of the truth of the man's statement. Would that such laws could be enforced in our own country! I proposed to this man that we should go to the bedside of the patient and be inoculated with the variolous matter, to which proposition he agreed, and I first inoculated myself in both arms, and then the man in both arms. Not the slightest irritation appeared, every puncture healing as readily as the scratch of a pin. I was vaccinated fifteen years before.

In the summer of 1847, a case of smallpox suddenly appeared in the hospital of the quartermaster's men, at Vera Cruz. No new patients were admitted; but every inmate having been already exposed to contagion, it was determined to let everything remain in *statu quo*, and to guard against contingencies. Nearly all of these men (most of them having been soldiers) had been vaccinated; the patient had not been vaccinated. Vaccination and revaccination were immediately resorted to, and several of the men were inoculated from the pustules of the patient, but without effect; for in not a single instance of revaccination, or inoculation, was there the least local irritation. I inoculated myself in both arms; no local irritation whatever. Not a single case of variola, or varioloid, occurred among these men, the only patient being the solitary one first attacked.

In the army of the United States the regulation is positive, and strictly enforced:—

“When a recruit joins a regiment, post, garrison, station, or dépôt, the surgeon will forthwith ascertain whether he has had variolous, or vaccine infection, and if he has not, will see that he be vaccinated as soon as practicable; and for this purpose he will constantly keep good matter on hand, making application to the Surgeon-General for a fresh supply as often as may be necessary.”—*Regulations for Medical Department*, par. 84.

No army regulation is more strictly observed than this; every recruit is vaccinated as soon as sent to a dépôt; on joining his regiment, post, garrison, or station, he is again examined with reference to this very subject. In the whole course of my service in the regular regiments of the army, from the extreme north to the tropics, I have never seen a case of variola, or varioloid, in man, woman, or child; and the only cases of the disease I have ever seen were among irregular troops, and persons over whom we had no control. I have revaccinated scores and hundreds of persons without producing the least effect, not even local irritation. As the question stands, shall we discard vaccination and return to inoculation? To which my reply would be: *By no means*. I can think of but one circumstance which could induce a resort to the practice of inoculation, the misfortune of being on duty with troops when smallpox had broken out, without a supply of good vaccine matter; in which event I would inoculate without scruple, but would very much regret the

necessity. Under the system of prompt vaccination, however, such a thing can hardly occur in our service.

Dr. George Gregory says of variola: "The increase is attributable to the extensive diffusion of vaccination." Again: "Vaccination had failed in establishing in the mind a confident feeling of security; it must be viewed as a beneficent provision of Nature, not for the extermination, but for the mitigation of smallpox." In regard to one point, "establishing in the mind a confident feeling of security," we must dissent from the conclusion of Dr. Gregory. On the contrary, there is a universal "confident feeling of security" in vaccination, from the highest to the lowest; in Great Britain, the Queen and the responsible advisers of the crown; in the United States, from the President to the clodhopper; and this "feeling of security" after vaccination is based on the medical experience of more than half a century, and on the tradition of the masses, tradition being often the best of evidence, for "fathers are not used to lie to their own children." There is a universal confidence in vaccination. In our own little experience, we have often known an Irish mother, pitted and marred with smallpox, lead her child to us, begging, "for the love of God," that it might be vaccinated. The confidence in vaccination is universal, and it will require mountains of facts to diminish it.

Dr. Copland seems to think that "the middle of the nineteenth century finds the majority of the profession in all latitudes and hemispheres doubtful as to the preponderance of advantages, present and prospective, to be obtained either from inoculation or from vaccination." Dr. Gregory says that vaccination is only a mitigation of smallpox. Granted. One hundred years ago, fifty years ago, this "*mitigation*" would have been considered a boon to mankind, all that could have been wished, all that would have been asked. In the present day, would not a *mitigating* agent, as quick and as efficacious in its action as vaccination for smallpox, in cholera, typhus fever, or yellow fever, be regarded as inestimable? Smallpox is so much *mitigated*, to use no stronger expression, as to be divested of its terrors; and I have never seen a case of variola, or varioloid, in any person who has been vaccinated, though they doubtless do occur. As Mr. Grainger says: "It is not the failure, but the neglect of vaccination which is the true cause of the mortality;" and this is especially true of England, Ireland, and the United States. In our own country the universal neglect of vaccination is deplorable. Vaccination ought to be universal; and "great stress is laid on the manner in which the operation is performed; on the importance of fresh and efficient lymph; and on the careful watching of each case—precautions which it is certain are but too often neglected." * * * "Not one need have perished, so far as smallpox was concerned, if only that great remedy, provided as it were by the hand of God himself, had been applied."—*Amer. Med. Journ.* July, 1852, pp. 228-234. On *Inoculation and Vaccination*, By Jesse Young, M. D. *Amer. Journ.* Oct. 1852, p. 381.

Medical Statistics of Vera Cruz.—In relation to the mortality of yellow

fever, Waddy Thompson says: "According to the estimates of those most entitled to confidence, less than five per cent. of those attacked die." This is surely a great mistake. In 1847, the French, Mexican, and Spanish physicians lost many patients, the fever attacking European foreigners earlier in the season than the Americans, and there were many interments before our troops were attacked. Dr. De la Puente, of Vera Cruz, informed me that he had known fifty per cent., and even seventy-five per cent. of the patients in the Mexican Military Hospital die; and from all the information which could be obtained before fever commenced, I decided in my own mind that if less than fifty per cent. of the yellow fever patients died, it would be as favourable a result as might reasonably be expected. Brantz Mayer gives an interesting paper:—

1841.		
Total population	.	6,500
Whole number of deaths	.	1,017
Mortality per cent.	.	15.64

Diseases.	Number of deaths.	Mortality per cent. of the whole population.
Vomito	155	2.38
Fevers ¹	142	2.18
Diarrhœa and phthisis ²	212	3.26
Dysentery	29	0.44
Variola	142	2.18
All others	337	5.18
	<hr/> 1,017	<hr/> 15.64

• Mortality from zymotic diseases, including phthisis, 10.46 per cent. of the whole population.

"Thus, allowing the population of Vera Cruz to be about 6,500 (which I consider quite liberal), you will perceive that one-sixth of the whole died in the course of the year; of this, one-sixth—about an equal proportion—perished from vomito. The excess of burials over baptisms is 563. Diarrhœa, dysentery, and vomito are the most fatal maladies. In 1842, I am told, that near 2,000 died of vomito in Vera Cruz. This, however, was owing to the number of raw troops sent there from the interior, to be embarked for Yucatan."

Humboldt gives us the following statistics: Hospital de San Juan de Dios, admitted from 1786 to 1802, 27,922 patients; died, 5,657; mortality per cent. 20.22. In great epidemics, the mortality amounts to 30 or 35 per cent. Hospital Loreto, from 1793 to 1802, 2,820 patients; 389 deaths; a mortality of 13.79 per cent. The best managed hospital, the little San Sebastian, in 1803, admitted 553 patients; discharged, 473; died, 78; mortality per cent. 14.10: yellow fever, 428; cured, 360; died, 69; mortality per cent. 16.12. In the Royal Military Hospital, including sailors of the royal navy, from 1792 to 1802, the mortality varied from 2.43 to 11.70 per cent. per annum; the average being 6.23 per cent. In 1806, Hospital San Carlos had a mortality of only 1.33 per cent., while San Sebastian had a mortality of 13.98 per cent., and Loreto had a mortality of 17.44 per cent.

¹ Fevers other than yellow fever, it is presumed.

² No one can tell why diarrhœa and phthisis are put together.

Statistics of the General Hospital of Vera Cruz, U. S. Army, from April 1, 1847, to March 31, 1848, one year.

Abstract of the report of sick and wounded, made to the Surgeon-General, for the quarter ending June 30, 1847 :—

<i>Regulars.</i> —Number of cases	1,310
“ “ of fever	234
“ “ yellow fever	112
“ “ diarrhoea and dysentery	482

Mortality—Total number	156
“ all fevers	26
“ yellow fever	14
“ diarrhoea and dysentery	84

Mortality per cent.	11.45
“ “ all fevers	11.11
“ “ yellow fever	12.50
“ “ diarrhoea and dysentery	17.42

Discharged for disability	0.46
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<i>Volunteers.</i> —Number of cases	860
“ “ of all fevers	178
“ “ yellow fever	14
“ “ diarrhoea and dysentery	347

Mortality—Total number	73
“ “ from all fevers	9
“ “ yellow fever	4
“ “ diarrhoea and dysentery	33

Mortality per cent.	8.48
“ “ all fevers	5.05
“ “ yellow fever	28.57
“ “ diarrhoea and dysentery	9.51

Discharged for disability	12.67
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Quartermaster's men, sailors, &c.

Whole number of cases	144
“ “ all fevers	86
“ “ yellow fever	52
“ “ diarrhoea and dysentery	40

Total mortality	30
Mortality from all fevers	18
“ “ yellow fever	13
“ “ diarrhoea and dysentery	7

Mortality per cent.	20.83
“ “ from all fevers	20.93
“ “ yellow fever	25.00
“ “ diarrhoea and dysentery	17.50

Consolidated report of regulars, volunteers, quartermaster's men, &c., for the quarter.

Mortality per cent.	10.93
“ “ from all fevers	10.64
“ “ yellow fever	17.41
“ “ diarrhoea and dysentery	14.27

Abstract of the report for the quarter ending 30th of September, 1847.

<i>Regulars.</i> —Number of cases	629
“ “ of all fevers	163
“ “ yellow fever	72
“ “ diarrhoea and dysentery	179

Total mortality	132
“ from all fevers	43
“ yellow fever	34
“ diarrhoea and dysentery	55

Mortality per cent.	20.98
“ “ of all fevers	26.38
“ “ yellow fever	47.22
“ “ diarrhoea and dysentery	30.72

<i>Volunteers.</i> —Number of cases	554
“ “ of all fevers	271
“ “ yellow fever	52
“ “ diarrhoea and dysentery	138

Total mortality	36
“ from all fevers	20
“ yellow fever	16
“ diarrhoea and dysentery	12

Mortality per cent.	6.49
“ “ of all fevers	7.38
“ “ yellow fever	30.76
“ “ diarrhoea and dysentery	8.69

Quartermaster's men, sailors, &c.

Total number of cases	377
“ “ of all fevers	217
“ “ yellow fever	100
“ “ diarrhoea and dysentery	69

Mortality	40
“ of all fevers	31
“ yellow fever	28
“ diarrhoea and dysentery	8

Mortality per cent.	10.61
“ “ from all fevers	14.28
“ “ yellow fever	28.00
“ “ diarrhoea and dysentery	11.59

Consolidated report of regulars, volunteers, quartermaster's men, &c., for the quarter.

Mortality per cent.	13.33
“ “ from all fevers	14.43
“ “ yellow fever	34.82
“ “ diarrhoea and dysentery	19.43

Abstract for six months, commencing April 1, and ending September 30, 1847.

<i>Regulars.</i> —Number of cases	1,939
“ “ of all fevers	397
“ “ yellow fever	184
“ “ diarrhoea and dysentery	661

Total mortality	.	.	.	.	.	.	282
"	from all fevers	.	.	.	.	.	69
"	yellow fever	.	.	.	.	.	48
"	diarrhoea and dysentery	.	.	.	.	.	139
Mortality per cent.	.	.	.	.	.	.	14.54
"	from all fevers	.	.	.	.	.	17.38
"	yellow fever	.	.	.	.	.	26.08
"	diarrhoea and dysentery	.	.	.	.	.	21.02
Volunteers.—Number of cases	.	.	.	.	.	.	1,414
"	of all fevers	.	.	.	.	.	449
"	yellow fever	.	.	.	.	.	66
"	diarrhoea and dysentery	.	.	.	.	.	485
Mortality—whole number	.	.	.	.	.	.	109
"	in all fevers	.	.	.	.	.	29
"	yellow fever	.	.	.	.	.	20
"	diarrhoea and dysentery	.	.	.	.	.	45
Mortality per cent.	.	.	.	.	.	.	7.70
"	from all fevers	.	.	.	.	.	6.46
"	yellow fever	.	.	.	.	.	30.30
"	diarrhoea and dysentery	.	.	.	.	.	9.27
<i>Quartermaster's hands, of all kinds.—</i>							
Total number of cases	.	.	.	.	.	.	521
"	of all fevers	.	.	.	.	.	303
"	yellow fever	.	.	.	.	.	152
"	diarrhoea and dysentery	.	.	.	.	.	109
Mortality—number	.	.	.	.	.	.	70
"	from all fevers	.	.	.	.	.	49
"	yellow fever	.	.	.	.	.	41
"	diarrhoea and dysentery	.	.	.	.	.	15
Mortality per cent.	.	.	.	.	.	.	13.24
"	from all fevers	.	.	.	.	.	16.17
"	yellow fever	.	.	.	.	.	26.97
"	diarrhoea and dysentery	.	.	.	.	.	13.76

Summary for six months, regulars, volunteers, and quartermaster's labourers.

Total number of cases	.	.	.	.	.	.	3,874
"	of all fevers	.	.	.	.	.	1,149
"	yellow fever	.	.	.	.	.	402
"	diarrhoea and dysentery	.	.	.	.	.	1,255
Mortality—number	.	.	.	.	.	.	461
"	from all fevers	.	.	.	.	.	147
"	yellow fever	.	.	.	.	.	109
"	diarrhoea and dysentery	.	.	.	.	.	199
Mortality per cent.	.	.	.	.	.	.	11.90
"	from all fevers	.	.	.	.	.	12.80
"	yellow fever	.	.	.	.	.	27.11
"	diarrhoea and dysentery	.	.	.	.	.	15.85

With these tables ends the yellow fever of 1847, the mortality being 27.11 per cent., as above stated; for there were so few cases in the next quarter (ten) as not to affect the results. No comparison can be made between the

regular troops and volunteers, for in the quarter ending with June, the twelve months men were rapidly discharged for disability, and they were all sent to the United States in a body, for discharge, before yellow fever became severe. In the quarter ending with September, the so-termed regulars belonged almost entirely to the newly raised ten regiments, and were in reality raw recruits.

Abstract of the report of sick for the quarter ending December 31, 1847.

<i>Regulars.</i> —Number of cases		652
“ “	of all fevers	116
“ “	yellow fever	3
“ “	diarrhoea and dysentery	195
Mortality—number		79
“	from all fevers	10
“	yellow fever	2
“	diarrhoea and dysentery	59
Mortality per cent.		12.11
“ “	from all fevers	8.62
“ “	yellow fever	66.66
“ “	diarrhoea and dysentery	30.25
<i>Volunteers.</i> —Number of cases		1,041
“ “	of all fevers	328
“ “	yellow fever	7
“ “	diarrhoea and dysentery	292
Mortality—number		113
“	from all fevers	23
“	yellow fever	5
“	diarrhoea and dysentery	63
Mortality per cent.		10.85
“ “	from all fevers	7.01
“ “	yellow fever	71.42
“ “	diarrhoea and dysentery	21.57

Report for quarter ending March 31, 1848.

<i>Regulars.</i> —Number of cases		539
“ “	of all fevers	55
“ “	yellow fever ¹	6
“ “	eruptive “	39
“ “	diarrhoea and dysentery	170

¹ Six cases among the regulars in the month of March; among the volunteers three cases, one in January, one in February, and one in March. It appears that cases of yellow fever, more or less, occur among strangers during every month in the year. In February, 1848, I was called to visit a young Mexican woman, from Jalapa, married to an American, just arrived, with her husband and brother, in Vera Cruz. The brother and sister had never been in the city before, and had never seen the ocean. Both the brother and herself, residing in different families, were taken with malignant yellow fever on the first day of February. The brother was attended by a Spanish physician, and died during the severe illness of the sister, the result of his case being carefully concealed from her. My patient had a malignant form of the disease, and was treated on the plan before stated; in the first stage, calomel and quinia, the quinia being given freely, olive oil and lemon-juice, cupping, &c.; and when the case

Mortality—number	67
“ from all fevers	9
“ yellow fever	4
“ eruptive “	1
“ diarrhoea and dysentery	47

Mortality per cent.	12.43
“ from all fevers	16.36
“ yellow fever	66.66
“ eruptive “	2.56
“ diarrhoea and dysentery	27.64

Volunteers.—Number of cases	360
“ of all fevers	53
“ yellow fever	3
“ eruptive “	11
“ diarrhoea and dysentery	114

Mortality—number	55
“ from all fevers	7
“ yellow fever	2
“ eruptive “	3
“ diarrhoea and dysentery	33

Mortality per cent.	15.27
“ from all fevers	13.20
“ yellow fever	66.66
“ eruptive “	27.27
“ diarrhoea and dysentery	28.94

Summary for one year, commencing April 1, 1847, and ending March 31, 1848.

Number of cases	6,466
“ of all fevers	1,701
“ yellow fever	421
“ diarrhoea and dysentery	2,026

Mortality—total	775
“ from all fevers	196
“ yellow fever	122
“ diarrhoea and dysentery	401

Mortality per cent.	11.98
“ from all fevers	11.52
“ yellow fever	28.97
“ diarrhoea and dysentery	19.79

was more advanced, blisters were applied to the cervical spine and epigastrium. February 8, the eighth day from the attack, I was obliged to leave Vera Cruz, and gave some general directions for the management of the patient; small doses of quinia, the infusion of palo mulato (before spoken of), enemata, small quantities of chicken-broth and beef-tea—above all, to send for another physician. The hostess was a capital nurse in yellow fever; and I afterwards understood that my advice was carefully followed, except to send for another physician, and the patient recovered. The Mexicans from the *tierra templada* appear to be more liable to yellow fever in Vera Cruz than the Americans, even those from the most northern State. Vera Cruz is a terror to the inhabitants of the interior. But what cannot a rigid police effect! Yellow Fever prevailed to a great extent in Charleston, New Orleans, and other southern cities, in 1852; Vera Cruz was in a better state of sanitary police than any city of North America, and consequently suffered less from yellow fever.

It is curious to observe the result of the numerical method in medicine. The real endemic, which ended by the 30th of September, shows a mortality of 27.11 per cent., but a few scattering cases and deaths (19 cases and 14 deaths) during the succeeding six months, augments the mortality for the year to 28.97 per cent., an increase of almost 2 per cent. per annum. Suppose a physician were to have but one case of yellow fever, what would be the consequence? If the patient recovers, the cures will be 100 per cent., almost equal to what some physicians boast of; but if the patient should unfortunately die, the mortality will be 100 per cent. The mortality from bowel affections is truly frightful. These complaints are much more formidable than even the yellow fever, and for this reason: Yellow fever is soon over, for recovery or death, soon takes place, under the eye of the physician; whereas, diarrhoea and dysentery may continue for a long time, weeks, months, and even years, the physician loses sight of the patient, and he at last dies of the original disease. The history of hundreds, officers and men, who came out of Mexico, tells the story. A patient with yellow fever may pretty certainly be said to have recovered, but diarrhoea and dysentery can never, in a tropical climate, be pronounced cured. Hence, the statistics of southern diarrhoea and dysentery (the chronic form is spoken of throughout) are of no great value.

It is to be distinctly understood that I had little or nothing to do with the hospital in the first quarter of 1848. But two medical men from New Orleans were eternally "harping on my daughter"—the Charity Hospital of that city; and it is for the purpose of comparison that the statistics of the Vera Cruz General Hospital for an entire year are so desirable. The mortality for one year at the Hospital San Francisco, Vera Cruz, was 11.98 per cent.; the mortality of the Charity Hospital, New Orleans, according to the able paper of Dr. Simonds, from 1839 to 1850, inclusive, varied from 9.3 per cent. to 27.2 per cent., the average mortality being 15.44 per cent. per annum.¹ The mortality from yellow fever in the Vera Cruz General Hospital was 28.97 per cent. for the year. Dr. Simonds says: "The records of the Charity Hospital give as the average mortality from yellow fever, during twenty-five years, 44.27 per cent., or 1 in 2 $\frac{1}{4}$." Mortality from yellow fever in 1847, 36.1 per cent. Mortality per cent. in 1847, 17.8.

Causes of the large mortality of 1847, in the Vera Cruz General Hospital.

1. Our troops were strangers to the climate. It is the same, probably,

¹ "The average mortality, from all diseases, in the Charity Hospital, during twenty-six years, from 1825 to 1850, is 16.45 per cent., or 1 in 6."—SIMONDS, *Charleston Med. Journ.* September, 1851, p. 704. By the same paper it appears that, from 1825 to 1850, there were but four years in which the mortality was less than in the Vera Cruz Hospital—1831, 1845, 1846, 1850—the mortality per cent. in those years being respectively 11.49, 9.3, 10.8, and 9.98. That of Vera Cruz is 11.98 per cent. I speak of the General Hospital.

with the great majority of the patients admitted into the New Orleans Charity Hospital.

2. The immense size of the hospital. The larger the hospital the greater the mortality, for obvious reasons. The most successful hospital, in our humble opinion, is one which can be managed by one medical officer, or at most with one or two good assistants. Perhaps the Charity Hospital resembles ours in this respect.

3. Incompetent physicians. This was a serious evil. Immediately after the battle of Cerro Gordo, April 18, every military surgeon and assistant-surgeon was ordered up to assist the wounded, with the exception of Assistant-Surgeon Laub (medical purveyor, and in charge of the First Infantry Hospital) and myself, and employed physicians had to be substituted; and such medical men as some of them were! Our limits will not permit of more than an allusion to some of these beautiful specimens of a learned profession. About the 1st of July several very good employed physicians arrived from New Orleans, but we continued to be more or less embarrassed by these pests to the close of the season. The Charity Hospital has no such difficulties to contend with; for, since I have known anything of the institution, its medical staff has been capable, efficient, and meritorious.

4. Incompetent, dishonest, and disabled hospital stewards. When the army advanced on Cerro Gordo, in April, the general of division in the immediate command of Vera Cruz, on his departure, took with him every able-bodied steward, cook, and attendant, leaving only invalids and broken-down men for the duties. Not a single healthy steward, ward-master, cook, or nurse was left. It is true that good ones were afterwards picked up, here and there, but this was a work of time. Can the Charity Hospital say as much? It is well known that honest, faithful, sober, and efficient hospital stewards are the right arm of the military surgeon, and it is the misfortune of our service that we have too few of them.

5. Bad cooks and nurses. Worthless and drunken men were easily enough found for these duties; but are they proper assistants in a hospital? A better set of men than these was ultimately found, but it had to be a work of time. We had none of the Sisters of Charity in our recently-formed institution; but, at best, the nurse was a rough, hard-handed soldier.

6. We had nothing to commence with except sick men, who came in daily by scores and hundreds.

7. Moribund patients. These were admitted in numbers, the patients often dying in four or five hours, even in one hour, after entering the hospital. It is wrong to impugn men's motives, but it really did appear to me that, sometimes, yellow fever patients were sent to our hospital to die. But there was no help for it, as a general hospital must receive every one, and if the dead and dying were brought, they had to be received. Even if the patient were not moribund on admission, so much time had often been lost as to render his situation hopeless; for it will be recollected that yellow fever must

be brought at once under treatment, and the delay of a very few hours may seal the fate of the case. This delay, and these moribund cases, swelled the mortality at Vera Cruz. No hospital feels this more sensibly than the New Orleans Charity Hospital. Some remarks on this subject, by a New Orleans physician, are recollected, but the paper is not at hand.

These remarks are not caused by a desire to disparage the Charity Hospital. On the contrary, this hospital has been one of the most useful in our country; and the city of New Orleans, and the people of Louisiana, ought to be proud of such an institution, and give it a liberal support. But *toujours perdrix* had so often been sounded in my ears, that I determined to institute an inquiry on the first opportunity.

I have spoken of incompetent physicians in our hospital, and we will now turn to a more agreeable subject, that of rendering "unto Cæsar the things which are Cæsar's." Drs. Barnes, Compton, and Fourniquet, employed young physicians of New Orleans, did excellent service, managing the sick judiciously. Dr. E. De la Puente, a Spanish physician of Vera Cruz, educated in his profession at the University of Pennsylvania, did good service, both as a physician and by his knowledge of the Spanish language. Assistant-Surgeon P. G. S. Ten Broeck, U. S. A., put in order a mismanaged division of the hospital, his "illustrious predecessor," an employed physician from New Orleans, having been found wholly incompetent. Assistant-Surgeon John Campbell, U. S. A., who was on duty in the city of Vera Cruz but a short time, was zealous, efficient, and did good service. This gentleman had a severe attack of fever at the Castle of San Juan de Ulua, to which fortress he had been ordered. Dr. Hankel, employed physician, did good service; nor must I omit Mr. Willy, medical student from New Orleans, who came out as one of the stewards, to see disease in all forms, and who performed excellent service. To all of these gentlemen, with Assistant-Surgeon Laub, U. S. A., I am under obligations, and their assistance, in trials and difficulties, will never be forgotten. Here ends the communication to the Surgeon-General.

ART. II.—*Surgical Cases. Aneurismal Tumours upon the Ear, successfully treated by the Ligation of both Carotids.—Recto-Vaginal Fistula, cured by Operation.* By R. D. MUSSEY, M. D., Professor of Operative Surgery in the Miami Medical College, at Cincinnati, Ohio.

CASE I. *Aneurismal Tumours upon the Ear treated by Ligation of both Carotids.*—Early in November last, Luther Gordon, æt. 19, accompanied by his physician, Dr. Kramer, came from Indiana, with his head bound up, to this city, on account of aneurismal tumours upon his left ear, and was admitted into St. John's Hospital.

The cavity of the concha was occupied by a pouch which rose above the level of the antitragus, and another covering the tragus and extending some way anterior to it, and pushing outward, was as large as a middling-sized nutmeg. Continuous with the upper part of this was a considerable elevation of the integument which covered the scaphoid fossa, and an inch and a half of the fossa innominata. Below the root of the ear, in the depression between the mastoid process and the ramus of the jaw, and partially covered by the lobulus, was a globular tumour of the same character, as large as a moderate-sized *Isabella* grape. All these tumours, or pouches, were elastic, and compressible almost to obliteration, pulsated strongly, and seemed to have a communication with each other, like the portions of an arterial varix. The whole circumference of the ear was larger than that of the other, and its integuments everywhere hypertrophied.

L. G. was of medium stature, with auburn hair and hazel eyes, and, although somewhat delicate in appearance, had enjoyed, from childhood, a pretty uniform health. From birth there was a cutaneous nævus in front of the left ear, but it attracted no particular attention. About eight years ago small elevations of the integument were observed at the points already described as the site of the tumours, in which pulsation was perceptible, especially after exercise. This, together with the size of the tumours, slowly increased, until, a month before he came here, the posterior extremity of the pouch occupying the fossa innominata burst open, causing alarming hemorrhage. This was suppressed by compression; and, subsequently, when the bandage and compresses were removed, the crust covering the opening gave way, and a pulsating jet of arterial blood followed.

With reference to the treatment of this case, the most promising course which presented itself, was the ligation of one or both carotids. The success which followed the tying of the primitive carotid, by Mr. Travers, in 1809,¹ for "aneurism by anastomosis of the orbit;" and in a similar case by Mr. Dalrymple, in 1813;² and also the tying of both carotids, by Dr. J. Mason Warren, in a remarkable case of vascular tumour of the mouth, face, and neck, in 1846,³ afforded encouragement for this procedure; yet the case¹ had in 1829,⁴ in which I tied both carotids for a large vascular pulsating tumour on the vertex of the head, not having been cured until the tumour was dissected away, left room for doubt whether, in the present instance, the ligature of both carotids even, might not fail of accomplishing the end desired. I determined, however, to resort to the application of a ligature to one of these vessels, possibly to both. The patient had been kept chiefly on farinaceous food since the first outbreak of the hemorrhage, and it was now enjoined upon him to live wholly without animal food until the operation.

On the 18th of November, I tied the left carotid. The pulsation in the tumours ceased on tightening the ligature, and did not afterwards return. His food was strictly farinaceous, with water for his only drink. After the lapse of ten days, a little milk was allowed. No unpleasant symptom occurred, except that when he began to sit up, which he was permitted to do in twelve days, he complained of indistinctness of vision in the left eye. It continued for several days, though less and less marked, till it ultimately subsided altogether. This symptom, indicating a defective supply of blood to the visual apparatus, has been sometimes observed, but I had not myself before noticed

¹ *Medico-Chirurg. Trans.* vol. ii.

² *Ibid.* vol. vi.

³ *Amer. Journ. Med. Sci.* vol. ii. New Series, p. 281, 1846.

⁴ *Ibid.* vol. v. p. 316, 1829.

it in either of the six cases in which I had applied a ligature to the common carotid. A slow reduction of the tumours took place; but, as it was quite doubtful whether a cure would follow, I proceeded, in four weeks, to ligate the right carotid. A slight effect was observed on the vision of the right eye when the patient began to sit up, similar to what had taken place with the other.

The two operations were performed while the patient was asleep from the inhalation of a mixture of chloroform, one part by measure, and washed sulphuric ether, two parts. Both arteries were tied just below the crossing of the omohyoid muscle. One ligature came away in sixteen days, the other in twenty. After the second operation the reduction in size of the tumours was much more rapid. In about three weeks, collodion was applied and repeated every two or three days. This seemed very much to promote the contraction of the pouches, and on the 28th of January, viz., seven weeks from the last operation, L. G. left for home with scarcely a vestige of the tumours remaining. I considered the result of the operations to be a permanent cure.

The last of April, three months after the patient went home, one of his physicians, residing near him, called on me, and gave the assurance that there were no remains of the swelling, and that he regarded the case as perfectly cured.

CASE II. Recto-Vaginal Fistula.—Mrs. G., set. 28, of fair complexion and delicate appearance, but possessing a pretty good constitution, apparently free from hereditary tendency to disease, was married between five and six years since. Being subject to costiveness, the recto-vaginal wall, under the influence of undue pressure, gave way some time after marriage, and a fistulous opening remained. This was somewhat enlarged during labour with her only child, which was born some two years after matrimony. Being very cleanly in her habits, Mrs. G. was able to keep herself comfortable when the feces were of a firm consistence, but when diarrhoea, or a state approaching it, existed, a considerable portion of the contents of the rectum passed through the vagina. All along, the monthly evacuation was uninterrupted, and the state of the bowels was regulated by aperients and injections.

On the 25th of March, 1853, I performed the first operation, which consisted in a division of the sphincter ani on one side, the object of which was to promote the contraction of the fistula by allowing the feces to pass through the anus without effort. Before this wound was quite healed, I proceeded, on the 20th of April, assisted by my son, Dr. Wm. H. Mussey, Dr. A. M. Slocum, and Dr. Logan, to the second operation. The hair having been removed from around the anus and posterior part of the vulva, the patient was put into the anæsthetic state by the mixture of chloroform and ether, and placed in the position usually chosen for lithotomy, the lower limbs being supported by assistants. A bivalve speculum was passed into the anus, while the sides of the vulva were drawn aside. In this state of tension of the parts, the fistula, brought fully to view, was sufficiently large to admit the two fingers. It was slightly oval shaped, its longest diameter forming an angle with the median line. The edges of the opening were freshened by a straight, narrow, sharp-pointed bistoury, and brought in contact and sustained by the *clamp suture* of Dr. Sims, of Alabama. A piece of elastic gum catheter was secured in the urethra; and the urine, the whole of which passed through the

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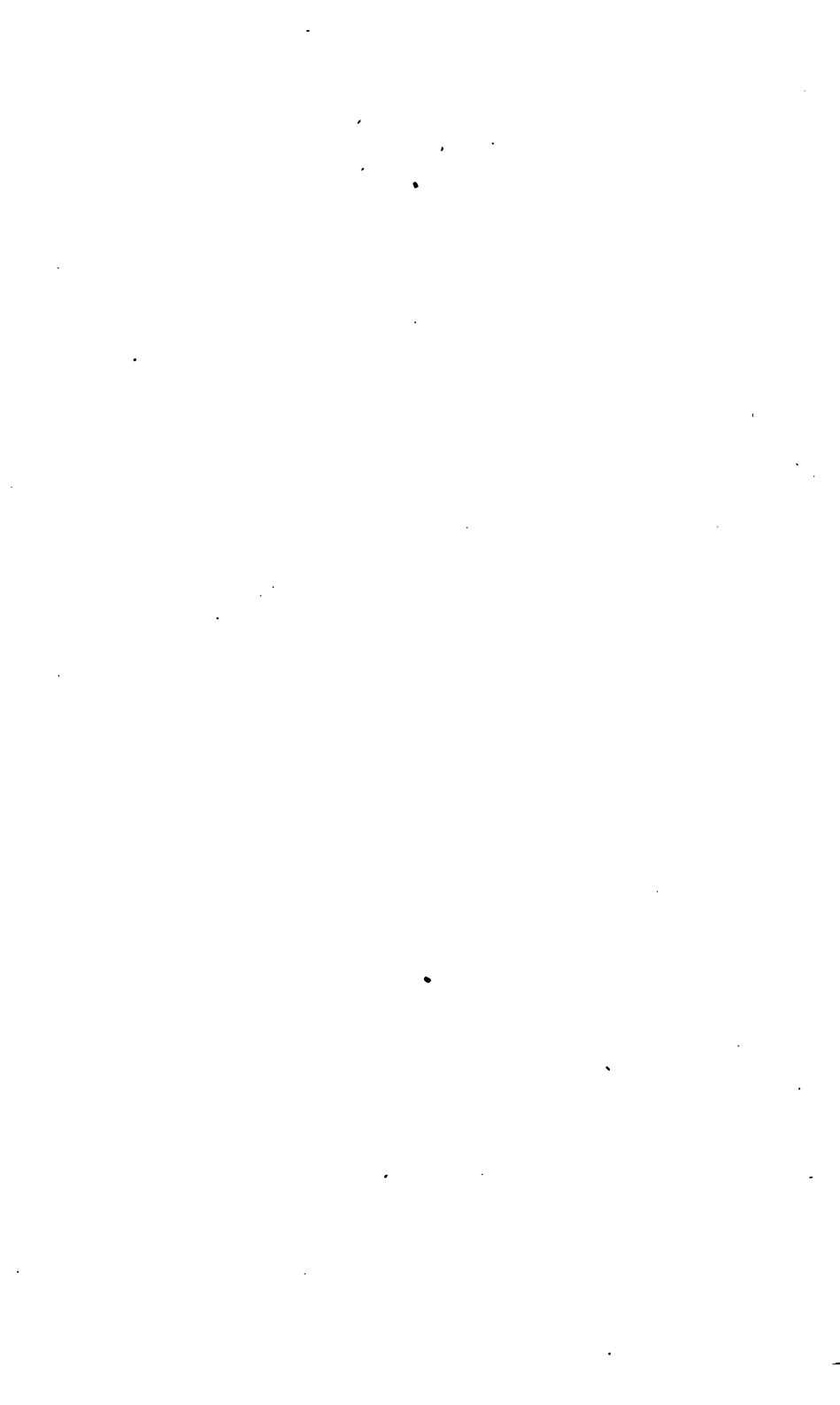
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uteri could, with some pains-taking, be felt between half an inch and an inch above the top of the pubic symphysis.

Various remedial measures, adopted by Dr. S., did not bring about any material amendment of the patient's condition. In the course of the treatment, a very great quantity of blood was discharged, whether spontaneously or by the catheter, from the bladder of urine: but notwithstanding these cares, together with a sedulous attention to the regulation of the alvine evacuations, the woman's distress became constantly greater. On the 9th day of June, Dr. S. did me the favour to invite me to a consultation with him on the case; and, upon a very carefully conducted research, it was agreed: 1. That the bladder was still greatly distended, though Dr. S. had allowed a flexible French catheter to remain within the bladder for several hours. Yet when this catheter was withdrawn, the bladder was still greatly distended, and lying upon and in front of that portion of the womb that had risen above the plane of the superior strait of the pelvis. Its outline could be distinctly traced through the abdominal integuments. The resistance of it showed that the contents were concrete, and not fluid. A metallic catheter introduced into the cyst brought away putrid grumes of long-coagulated blood; and, upon injecting tepid water through the catheter, the liquor returned charged with the most putrid colluvies mixed with broken clots, evidently of long standing. 2. The os uteri could with difficulty be reached by the index finger carried above the top of the pubis, and the posterior wall of the womb inclined downwards and backwards into the bottom of the recto-vaginal *cul-de-sac* of Douglass. A protracted effort, which I made, to elevate the fundus, and bring the cervix down, proved fruitless, though, in making it, I caused the patient to place her sternum on the bed, and raise the hips by bringing the knees vertically beneath the pelvis; which is the best possible position to favour such an operation. 3. The failure of all attempts to reposit, whether by the hand, by the use of the catheter left *in situ* for many hours (a method heretofore much recommended), or by Hervez de Chegoin's elastic caoutchouc bags, gave reason to believe that the retroversion was incurable in consequence of adhesion of the fundus with the back part of the pelvis. But, as this diagnostic could only be deemed presumptive, and not demonstrative, it was concluded that the cares should be continued, with a view to wash out the putrid grumes from the bladder; and it was, perhaps, reasonable to hope that, if the bladder could be wholly relieved of its solid distending contents, it might become possible to push up the fundus, and show that the apprehensions as to adhesion were groundless.

On the 18th of June, the woman died in the night, having been quite relieved of the putrid coagula, and having also partially recovered power to pass the urine without the catheter.

I was again obliged to Dr. Steward for his great kindness in inviting me to witness the *post-mortem* examination, which took place at the Blockley Hospital, at 4½ P. M., of Sunday, June 19, 1853. There were present Dr.

Steward, Physician-in-chief to the Hospital, assisted by Drs. Taylor, Coleman, Taggart, Budd, Marseilles, and Barksdale, of the house, and the undersigned.

The contemplation of such a case affords a most useful practical lesson; it is, that all women who labour under retroversion of the uterus, are, in addition to the pain and other inconvenience arising from the accident, liable to no inconsiderable risk of adhesion of the fundus in the bottom of the pelvis. Such adhesions are not very uncommon; and, as they are inaccessible to the surgeon, must be regarded as incurable.

A woman with adherent retroversion is liable to conceive; and, in that event, can only escape from death by abortion; since the progressive development of the ovum must, as early as the fifth or sixth month, pack the cavity of the pelvis so completely, as fatally to obstruct the offices of the rectum, the ureters, and the bladder.

In all such cases the sole resource is in a forced abortion; and the practitioner should feel warranted, in formal consultation only, to proceed to the performance of the proper operation.

In a case where it might be practicable, he would rupture the ovum by means of a womb-sound introduced within the canal of the cervix. It might, however, be impossible to do so on account of the great elevation of the os above the symphysis. It could not have been done in Dr. Hunter's case, described in his famous tables of the gravid womb. I do not know that it would have been practicable in this case. A sure method of compelling the womb to contract consists in puncturing the organ with an exploratory trocar, by which the amniotic liquor could be withdrawn perhaps with little damage to the womb itself. Labour would sooner or later ensue upon the discharge of the waters. Where the ovum cannot be reached through the os and neck, the trocar would be allowable.

Dr. Steward could not feel justified to perform such an operation, in this case, complicated as it was with so violent an attack of cystitis. I do not hold that the surgeon is bound to compromise the glory of his art in a mere faint hope that good might follow an act of questionable propriety.

The remains exhibited the appearances so common to those who die rapidly with violent disease, and the dissection showed that the immediate agent in the destruction was an intense cystitis, ending in ramolence and perforation of the bladder, with consequent escape of urine into the peritoneal cavity.

The *embon-point* was considerable.

The abdomen was much distended with gas, and sonorous on percussion.

A crucial incision exposed the contents of the abdomen. The colon was enormously distended, the small intestines considerably so. The peritoneal sac contained twelve to eighteen ounces of serum. No inflammatory exudation was observed causing the convolutions to cohere.

The mesentery and mesocolon being cut away at the root, the alimentary

canal was removed, leaving a clear space to pursue the rest of the dissections.

Attempts to reposit the uterus were now renewed, by thrusting the hand down betwixt the uterus and the curve of the sacrum, but they were protracted and repeated in vain. The fundus could not be pulled up from its place in the recto-vaginal *cul-de-sac*.

The gentlemen hereupon cut away the pubis with a saw, which passed in front of the acetabula, and through the rami of the ischial bones. Upon removing the bone, the os uteri was exposed. A ruler being laid across the hypogastrium, on a level with the anterior superior spinous processes of the ossa ilia, showed us that the os was within an inch of a line drawn from one spinous process to the other, which shows how completely the organ was turned topsy-turvy.

After the ossa pubis were taken away, with difficulty I passed the index finger of the left hand into the os, and the whole of the right hand down behind the mass of the womb in front of the sacrum. In this way I employed a great deal of force in a vain attempt to reposit the organ. But no effort did or could succeed until a quantity of strong adhesion, that had bound the fundus to the lower part of the sacrum, was destroyed with a bistoury; whereupon, the slightest effort sufficed to reposit the os uteri, which descended into its place.

The womb and vagina, with the bladder and rectum, being next carefully taken out of the pelvis, it was seen that the bladder was empty; an incision being made, its coats were seen to be greatly thickened. The whole mucous surface was covered with exudation-membrane, and the tissue was so far gone in inflammatory ramolence, as to tear like wet paper. A perforation was observed which must have given issue to the urine; which, falling into the peritoneal cavity, developed the extensive peritonitis, the product of which was exhibited in the serous deposit already mentioned.

The next step was to an examination of the womb. An incision being made, with care, to avoid opening the membranes, it was carried up to the edge of the placenta, which was seen attached at the fundus.

As I have on various occasions published my views concerning the mode of connection betwixt the placenta and the womb, I was desirous that all the gentlemen should avail themselves of so good an opportunity to judge for themselves as to the facts in this case. Wherefore, exposing the object in a clear light, they were earnestly exhorted to observe critically the appearances to be presented during the process of separating the placenta from the womb.

The ovum was still unruptured.

Taking hold of the cut edge of the uterus with two dissecting forceps, and gradually raising the edge, or margin; from the basin in which it was held, the unbroken ovum very slowly rolled out from the opened organ, thus effecting the separation by force of gravitation. Each one of the company carefully scrutinizing the appearances, endeavoured to discover any signs of broken tractus

of bloodvessels as the placental surface slowly drew itself away from the uterine surface, and it was agreed by all of the gentlemen that not a bloodvessel was either broken or drawn out during the entire act of separation. The appearances were so similar to those witnessed during the avulsion of a placentule from a cotyledon in the ruminants, as to convince me that the same mechanical principle is employed by nature in both cases, as it certainly is in the solidungula, in the pachydermata, the rodents, and the cetacea.

I cannot refrain from expressing the satisfaction with which I observed this confirmation of the doctrine I have always felt it my duty to maintain, as well in my public lectures as in my printed works.

The embryo was well developed, at about five months and a half of uterogestation. The liquor amnii was pure and transparent, and the substance of the uterus perfectly normal. The fundus still shows the remainder of the adhesions, which, by preventing the reposition of the womb, gave rise to the disorders from which the unhappy patient perished.

Both the kidneys were highly engorged. The pelvis and ureter of the right side were greatly dilated. It is probable the hæmaturia came from this kidney, possibly from both the kidneys.

My frequent experience in treating disorders of women, convinces me that cases of retroversion of the womb are much more frequent than is supposed. And this is the more surprising since no diagnostication can be more easily and certainly made.

The cases have undeniably proved very difficult to cure; and there may, perhaps, be some individuals who resist every method of treatment, in consequence of a permanent relaxation of the ligamenta rotunda, and ligamenta utero-sacralia. I shall, however, find it very hard to admit that a woman afflicted with retroversion merely, and wholly free from adhesion of the fundus, would not get quite well, provided a discreet use should be made of the annular pessary, described by Dr. Charles Evans, in a communication to the Philadelphia College of Physicians, and published in the *Transactions* of that College.

ART. IV.—*Large Popliteal Aneurism, presenting some Remarkable Phenomena.* By Dr. J. MASON WARREN, Surgeon at Massachusetts General Hospital. (With a wood-cut.) Communicated to the Boston Society for Medical Improvement.

IN the early part of February, 1853, I was requested to visit this patient in consultation with his physician, and learned the following history of his case. He was a mechanic, 35 years old, married, and had always enjoyed good health until about a year since, when he had an abscess in the left groin,

which was opened and did well. His occupation was turning a crank in a cannon-foundry, partly with his hand, but completing the revolution by pressure of the outer side of the knee, or rather leg just below the knee, against the crank. In December, 1852, he first noticed a small hard tumour in the left popliteal space, to which his attention was drawn by a pain in the spot, occurring at intervals, whether he was at work or at rest. For the three weeks preceding this trouble, he had used the crank daily, and often applied all the force possible by the knee. At first, liniments with bandaging were directed by a physician, and he kept on with his work, but finally the pain and swelling increased so as to confine him to the bed. The subcutaneous cellular membrane becoming involved in the inflammation, the whole leg and foot were enormously swollen and œdematous, and the pain most excruciating. The disease was now treated as an abscess; and the patient was under the care of various physicians, and several practitioners of homœopathy. Many applications had been made, such as poultices, water-dressings, etc., but without affording any relief; and, on the day previous to my seeing him, an incision was made into it with a lancet, under the idea of its being an abscess, which gave issue to nothing but blood.

At the time of my visit, the following were the appearances. The whole popliteal space was filled by an undefined swelling, or tumour, excessively tender to the touch, semi-elastic, with a feeling of deep fluctuation. The surface of the tumour was quite red, and the skin offered the appearances which are observed where suppuration is taking place beneath. The application of the ear detected a strong pulsation, such as may be observed where a large vessel is partially compressed by a tumour, or fluid collection. There was no aneurismal thrill. The whole leg and foot were enormously swollen and œdematous, so as to obscure all the anatomical marks of the limb. The pulse was 120, and the patient evidently much exhausted, having been under hydropathic and homœopathic treatment for the week previous, with no evacuation from the bowels, and no attempt to mitigate the excessive pain by the use of narcotics.

On account of the obscurity of the case, I advised against any incision. It was agreed to give a purgative, and use opiates afterwards to alleviate his sufferings. Under this course, accompanied with soothing local applications, the patient rallied, the pain became less acute, and the swelling of the leg and foot was much diminished. During the week following, the parietes of the tumour had grown more thin, and the question of an incision again arising, I was requested to see him a second time.

The general appearances of the diseased part were not much altered; the tumour was, perhaps, a little more defined, on account of the subsidence of the swelling of the limb below. The external aspect was still the same with that presented by an acute abscess. By compressing the femoral artery, it was found that the tumour became gradually smaller, returning again to its former size when the compression was removed. This diminution was only

to a limited extent, and not more than may be observed on compressing a large vessel which supplies any tumour possessing much vascularity.

From a consideration of the above phenomena, I was induced to repeat my advice against making an incision into the tumour, and give an opinion in favour of its aneurismal character. On subsequent inquiry into the appearance of the blood at the time of the incision, it was ascertained to have been arterial, and to have issued with a forcible jet, but easily arrested by compression of the aperture, so that there was no bleeding afterwards. My friend, Dr. Parkman, having visited the patient, at my request, coincided with me in opinion as to the probable aneurismal nature of the tumour.

The patient was now advised to enter the Hospital, where he could be more narrowly watched, as it was feared that in case of any sudden hemorrhage he might not be in a position to have it arrested in time to prevent dangerous consequences. Subsequently to his entrance, a consultation was held of the surgeons of the Hospital, who varied in opinion as to the nature of the tumour between a malignant disease and aneurism. From this reason, from the unhealthy state of the limb, and from the low condition of the patient, arising from his long illness and suffering, it was not thought advisable to apply a ligature to the artery for fear of mortification. It was therefore decided that an attempt at compression should be made on the femoral artery above the tumour.

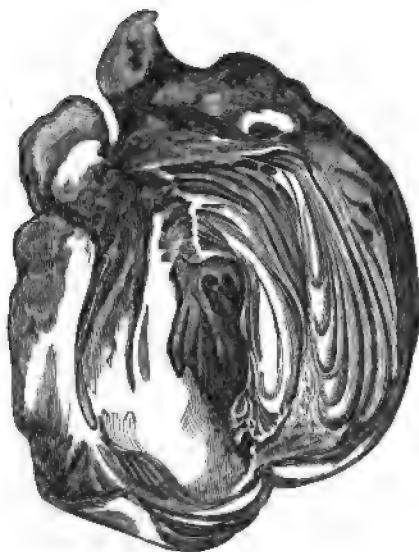
A bandage having first been applied to the lower part of the limb, and the tumour being well supported, compression was carefully made by means of Signorini's and the ring tourniquet, placed alternately on different parts of the femoral artery. On the third day afterwards, the cicatrix of the small opening in the ham, made before his entrance, and which had for some time been gradually becoming thinner, gave way, and a small stream of blood issued from it. This was easily arrested by gentle pressure, and had the advantage of deciding the diagnosis.

For a few days the tumour seemed to be more solid, and the compression, which was very carefully adjusted, had the effect to stop all pulsation in it. The severe pain under which the patient had laboured was also much mitigated thereby, and he seemed to improve generally. The tourniquets were changed every few hours, when the skin was washed with spirit, and dusted with the oxide of zinc.

About the fifth day of compression, the aspect of the tumour was not so favourable, an evident softening of the integuments was going on, and the parietes manifested a disposition to give way in another place. Coincident with the change in the tumour, the limb below assumed a mottled appearance, and became a little more swollen. From this period the patient gradually sank, and died on March 15th, about twenty days after his admission to the Hospital. Three slight hemorrhages occurred during the last week, varying in amount from four to six ounces each, so far as could be estimated from the appearance of the cloths and bandages about him. The day on which the

last of these took place, it was suggested that possibly by throwing ten or twelve ounces of blood into the veins, he might gain sufficient strength to allow the performance of amputation, which he now requested to have done, and which, though not suggested to him, he had pronounced before his entrance to the Hospital, would under no circumstances be submitted to. The transfusion produced a temporary increased action of the pulse, with a sensation to the patient of imparted strength, but not sufficient to warrant any surgical operation.

On examination after death, the disease was found to have been an aneurism of the popliteal artery, which had given way on its inner side, the opening being an inch long, and comprising half the caliber of the artery. The size of the vessel at its exit from, was not more than half that at its entrance into the tumour. The sac, filled by a large fibrinous concretion, was formed at the expense of the cellular membrane in the vicinity of the vessel, and lay between the latter and the bone. The osseous texture was extensively eroded. The knee-joint was filled with pus, and that portion of the capsule near the tumour almost gangrenous; so that, if the patient had survived a sufficient length of time, there would evidently have been a connection between the aneurism and the knee-joint. The interior of the sac was filled by a large mass of fibrin, of the size of an orange, showing most beautifully the concentric layers. (See Figure.) The cavity containing blood was reduced to the



size of a pigeon's egg, and being in the immediate vicinity of the artery, which, as already stated, was external to the coagulum, its situation was quite superficial. The small size of this cavity will sufficiently account for the slight diminution of the tumour under pressure, and consequent obscurity of diagnosis.

The compression in this case, which was very faithfully made for the space of ten days, had evidently gone far to obliterate the cavity of the aneurism, but the vital powers of the patient, exhausted by severe disease and suffering, were not sufficient to carry him through the treatment. The compression was effected without any excoriation of the integuments, and with very little comparative suffering; in point of fact he expressed himself as relieved by it.

In presenting this case to the Boston Society for Medical Improvement, the attention of the members was directed to the great difficulty of diagnosis. The disease at first had followed the course of an abscess forming in a deep situation, and confined under the fascia; with this idea, an incision had been made in it by the patient's physician. There was no aneurismal thrill; and previous to the inflammatory symptoms which obscured the disease, no unusual pulsation had been observed in the tumour by the patient or others.

A friend has recently pointed out a case in some respects similar, which was reported to the Royal Medical and Chirurgical Society of London, and published in the *London Lancet*, of February 5, a subclavian aneurism mistaken for an abscess and opened. The bleeding from the incision was slight and easily arrested. It was afterwards decided in consultation to be aneurismal, and the subclavian artery was tied. The author of this paper remarks on the difficulty sometimes experienced in forming a correct diagnosis between fungoid and aneurismal tumours. "The present case," he says, "had at first been taken for an abscess; and it was not until the hemorrhage took place, that its aneurismal character was suspected."

ART. V.—*Extracts from the Records of the Boston Society for Medical Improvement.* By WM. W. MORLAND, M. D., Secretary.

April 11. Dr. CHARLES E. WARE reported a case of *Puerperal Mania*.—The subject was a young woman — years of age, frail, and who had been feeble, with some threats of miscarriage during the last months of pregnancy. She was confined March 28, of a feeble child, which was with difficulty made to breathe, and which survived only a few days. She had no secretion of milk. The infant was buried April 4. The mother appeared quite tranquil through the afternoon, and fell asleep in the evening as calmly as usual. In the middle of the night she awoke as if from a dream, or in a fit of nightmare, in a state of great agitation, and her reason entirely gone. Although the catheter was passed, no urine was obtained during fifty hours, and then only one and a half pints. She had no febrile symptoms. Her pulse was at 84. She slept very little. On the morning of the 7th, she awoke with her mind perfectly clear and natural, but in quite a feverish state and with a pulse of 120. Her face was flushed, her skin hot, and her tongue dry. She had a good evacuation from the bowels, and passed her urine naturally. She took food freely, which she had before refused.

This lucid interval continued until 11 o'clock at night, when she again became maniacal, and was much more active in the exhibitions of her insanity than at first; constantly talking and screaming. She had passed no urine since the morning. Her pulse, which had been accelerated during the lucid interval, again fell to 84. During the night she had little sleep. All her feverish symptoms had subsided. She took her food more readily than during the first interval. In the morning, about half a pint of urine was drawn off.

On the 11th, she again had a lucid interval of five or six hours, during which there was again the same febrile reaction as before, and, as before, she again evacuated her bowels and bladder naturally, being dependent upon the catheter and medicine during her insanity. She then again fell into the state of mania, and continued for five or six weeks gradually recovering her reason, and presenting nothing peculiar in her symptoms.

The points of interest were the instantaneousness of the attack, and the almost instantaneous transitions from mania to sanity, and from sanity to mania; together with the sudden febrile attack on the return of reason; its continuance during the lucid interval, and return to a natural state of the circulation on the occurrence of mania.

April 25. Extensive Cancerous Disease of the Left Extremity of the Stomach.—Case reported by Dr. J. B. S. JACKSON. The patient was a female, thirty-two years of age. Entered the Hospital in December; had been dyspeptic for a year, and had had dysphagia since August; appetite quite good; but the food seemed to be thrown off before reaching the stomach; it would stop, apparently, for a moment or two at the lower extremity of the oesophagus, and, after a little gurgling, a small portion would pass into the stomach, and the rest would be regurgitated. There had been loss of flesh and strength for three months; and, after admission, she became very much reduced. Disease of the stomach was, of course, thought of, but as no tumour was ever felt in the epigastrium, a probang was introduced; this, at first, seemed to pass into the stomach, but, on farther examination, it was decided that it entered a very little way, if at all, into the organ, and that there was, probably, a mechanical obstacle at the cardiac orifice. There was much pain at the epigastrium; and, towards the last, an entire loss of appetite.

On dissection, the whole left extremity of the stomach was destroyed by foul, dark cancerous ulceration, the disease involving the lower extremity of the oesophagus. The fundus and body of the uterus were infiltrated with cancerous deposit, the organ thus far being thickened, though not apparently enlarged; cervix and os uteri healthy. Similar disease was found, to some extent, in the lungs and bronchial glands.

Dr. J. reported the case more particularly for its bearing on the diagnosis of stricture of the oesophagus. Some years ago he examined a case of encephaloid disease, not of the left extremity of the organ, but of the cardiac orifice, and which had been mistaken for stricture; the patient experiencing considerable relief from the probang, probably from its breaking down the soft masses that obstructed the passage.

Excision of the Shoulder-Joint for Caries.—Dr. J. MASON WARREN. The patient was sixty years of age. Three years ago, the disease first manifested itself by a pain in the shoulder-joint. Within the last year, swellings have occurred about the middle and outer part of the arm, which being opened gave issue to a large quantity of pus. Other collections

of pus afterwards appeared on the inner side of the arm, and over the pectoral muscle. Explorations by means of a probe, through these apertures, did not discover any dead bone. In the mean time, the motions of the shoulder-joint had gradually become almost abolished, and the pain and great purulent discharge were wearing out the patient's constitution. About four months since, Dr. W. made an incision from the opening nearest to the shoulder-joint, towards the head of the bone, where he suspected the disease was situated. By this incision, a small portion of the os humeri was exposed in a carious state. The wound was kept open, and the free exit of pus afforded some temporary relief. The carious portion of bone detected being so small, and ankylosis having partially taken place, it was hoped that the cure might be ultimately effected in that way. After waiting a month without an improvement of the symptoms, the patient was etherized and the previous incision enlarged. It was now found possible, by the free exploration afforded by etherization, to examine fully as to the amount of disease. From half to two-thirds of the os humeri was in a carious state, and the glenoid cavity in the same condition; at the back part of the joint, false ankylosis had taken place. No hesitation was now felt as to the necessity of an operation, especially as the patient's health was becoming seriously affected from the profuse discharge and irritation. The operation was as follows: A triangular flap was raised from the shoulder, so as to expose the head of the bone. The strong adhesions between it and the socket were next cut through, which, with a little dissection, allowed the head of the bone to be turned out and sawed off by means of a small handsaw. The socket, being similarly diseased, was next removed by the cutting-forceps. Two or three sutures, with adhesive plaster, brought the edges of the wound into apposition. The patient has since done well. The strength of the arm and its natural sensations have been restored, and he is able to employ it in many of the necessary duties of life. The discharge from the various sinuses is gradually decreasing, and the large cavity, left by the removal of so extensive a disease, has filled up by granulation. His health is excellent. It is possible that, from the long continuance of the disease, exfoliations may still take place; but all the symptoms, at present, indicate ultimate recovery.

May 9. Perforation of the Intestine in a Case of Simple Diarrhoea.—The case occurred in the practice of Dr. EZRA PALMER, Jr. A female, aged thirty-nine years. The diarrhoea came on two months before death, having been preceded by dyspeptic symptoms, obstinate constipation, and general debility. The discharges were generally liquid, bilious, and without mucus or tenesmus; occasionally colorless mucus, with tenesmus; never much pain; confined to bed. Perforation took place four days before death; marked by a sudden attack of severe pain, with excessive prostration.

On dissection, there was found a large effusion of pus in the abdominal cavity, with some serum; omentum very red. The large intestine contained much fecal matter, notwithstanding the diarrhoea; and was very extensively ulcerated from the cæcum to the commencement of the rectum. To a considerable extent very little mucous membrane remained. No thickening, nor induration of submucous cellular membrane; much burrowing of ulcers, muscular coat clearly dissected where exposed. Almost no discoloration. Remaining mucous membrane apparently quite healthy. The perforation was in the arch of the colon, and a line or more in diameter. Small intestine healthy. Liver fawn-coloured, and quite fat, though not enlarged as usual. Lungs not tubercular.

The occurrence of perforation in a case of simple diarrhoea would hardly enter into our calculation in giving a prognosis.

Remarkable Closure of the External Orifice of the Ear.—Reported by Dr. CABOT. The subject of this affection is about twenty-three years old. When a young child, there was some trouble at the external orifice of the left ear, for which an application was made which caused great soreness, &c., after which the orifice of the ear became completely closed: there has been no power of hearing on that side, since; occasionally, there has been pain and uneasiness there. On examining the external ear, there is no appearance of any orifice, nor any cicatrix or mark, such as one might expect to find, indicating the original position of the orifice; the tragus was very low and inconspicuous, and the whole lower part of the concha was closed by a tissue whose surface was only slightly depressed, and which was of the same colour and appearance as the parts on either side. On making a sound, by clicking the finger-nails of the thumb and forefinger together, while in contact with the bone near the auditory canal, it was found that the nerve was in good condition, and, taking the tragus for a guide, Dr. C. passed a narrow and sharp knife-blade in the direction of the canal, as nearly as he could judge: after passing the knife in, to the depth of a quarter of an inch or a little more, the cavity of the external ear was reached; the instrument had penetrated the very lowest part; in other words, the tragus had been pulled very low down, as related to the passage. The incision was consequently enlarged by two cuts, one upward and a little forward, the other upward and a little backward; a tent of compressed sponge was then introduced. The hearing was very perfect as soon as the opening was made.

Extra-Uterine Fœtation.—Dr. PUTNAM reported the case of a patient whom he had visited with Dr. GEO. BARTLETT.

She was thirty years old; had been married ten years; had never been pregnant. Menstruation had been regular until the 15th of Nov. 1852. On the 1st of December, she had a sudden and somewhat copious discharge of blood from the vagina.

On the 1st of January, 1853, while making an effort to evacuate the bowels, she was seized with severe pain in the lower part of the abdomen. She fainted, and remained for five hours very cold, with feeble pulse.

March 17.—Has had more or less pain at every fecal evacuation since the first attack. Was quite comfortable yesterday till 7 P. M., when she had a loose dejection, after having taken castor-oil. Suddenly, was attacked with excruciating pain; extreme prostration; pulse at times imperceptible; surface of the body moist and cold; occasional vomiting. Brandy and laudanum were very freely administered, but she remained for fourteen hours in a hazardous condition.

19th.—Abdomen somewhat tender on pressure. A tumour detected just above the pubes. By the vagina, the tumour, apparently the uterus considerably developed, is felt within two inches of the external organs; firm, not fluctuating. Neck of uterus softer and shorter than natural. Very little tenderness to touch. Constant slight bloody discharge from the vagina. Urine scanty; occasionally a retention, requiring the use of the catheter. Areolæ brown; follicles developed; no uterine souffle.

29th.—Has had more or less pain up to this time. Has had salivation, with soreness of mouth and throat; frequent vomiting; is greatly reduced in flesh.

Bowels have been freely moved by castor-oil. Pulse 112. The tumour reaches nearly to the umbilicus, and is firm; not much tenderness on pressure.

Os uteri not dilatable; cervix considerably effaced. The tumour feels broader, and has almost a stony hardness.

April 16.—For some days past has had some appetite. Pulse 100; less feeble. Has had several dejections, without pain; but she continues to suffer a good deal from pain in the pelvis and abdomen.

The tumour, which was very firm and prominent above the pubes, is much less distinctly felt there, and, towards the umbilicus, it gives the idea of diminished hardness, or as if a layer of some soft substance had been interposed between the tumour and the parietes of the abdomen. Percussion dull over pubes; resonant on each side. The os uteri is dilatable and more soft; otherwise, the tumour, as felt by the vagina, is as hard and immovable as before.

May 2.—For a few days past, has been rapidly sinking; now, pulse 175. Respiration irregular, and thoracic surface of the abdomen hot; elsewhere, quite cold.

For the most part unconscious. Died, May 3.

Post-mortem examination, twenty-four hours after death. On laying open the abdomen, the tumour was seen to be imbedded in the convolutions of the intestine, its upper portion being a thin fluctuating sac; its lower pelvic portion solid. It was everywhere adherent; and on the first attempt at removal the sac was ruptured, and about twelve ounces of brown liquid poured out, together with semifluid coagula. The solid portion was then separated from the posterior surface of the pelvis, together with the uterus, which was bound down upon it in front; the rectum had been pushed aside and adhered on the left, and both ovaries upon its lower surface. Upon turning up its posterior face, the foetus appeared lying in the sac, nearly enveloped in placenta. The uterus was four and a quarter inches in length, about an inch and a quarter longer than natural. Width at the fundus, two inches; at the neck, three quarters of an inch. No deciduous membrane existed. The foetus was about four months; the placenta was larger than is usual at that period.

It was difficult to make a satisfactory *diagnosis*, or to suggest a probable explanation of the most prominent phenomena, viz. the four distinct attacks of sudden and overpowering pain in the abdomen; one attack following coitus, the other three being induced by the effort of defecation. The same is true of the physical signs. External examination showed, apparently, a single uniform tumour; while, by the vagina, a smooth firm surface was felt to extend from the os uteri, as a centre, towards the circumference of the pelvis, without furrow or line of demarcation between the uterus and the tumour, so closely were they moulded together.

Ordinarily, the rational and physical signs of extra-uterine foetation resemble those of natural pregnancy, the differential diagnosis being founded chiefly on the presence of a distinct extra-uterine tumour, while the uterus undergoes certain modifications in size and structure. But this evidence may not be available, as the relative proportions may be inverted, the cyst small and out of reach, and the uterus of considerable size. In the present case, there was apparently no tumour independent of the uterus, no fluctuation or *ballotement*, and not even the imperfect *souffle* that sometimes accompanies accidental growths.

On the other hand, the salivation and sore mouth, the suppression of menstruation, the fulness of the mammæ and enlargement of the follicles favoured the supposition of pregnancy.

The autopsy fortunately cleared up the doubts, and showed the succession of phenomena to have been probably thus: The ovule, by some means, was lodged upon the peritoneum, or within the fold of the broad ligament. It there sent out its filaments, and established for itself a maintenance. No difficulty occurred until the parts were stretched and the union to some extent separated by the straining effort of defecation. One or more vessels were torn, blood effused, and then followed pain, faintness, and prostration, the symptoms of nervous shock. The effusion was probably limited by adhesions. She rallied, and was convalescent, when a repetition of the effort induced a second and more severe attack. Under the effect of these violent shocks, and of the continued local irritation, she gradually failed, and died within five months of conception.

Dr. Putnam added that he should have remarked that the membranes of the ovum were very distinct, and that the cyst appeared to consist partly of peritoneum, partly of false membrane. In a case of ventral pregnancy which he saw a few years since, the membranes were apparently of the same character. The patient lived till the completion of the full period of gestation.

The placenta, as before remarked, was attached to the region of the sacrum and to the rectum, and had attained an unusual size for the period of pregnancy. In some cases, it has been found upon the stomach, mesentery, &c., and it is a curious physiological fact that the peritoneal surface of any and every organ can supply the place of the uterine vascular apparatus—that, practically, the peritoneum can assume a function, for the discharge of which a peculiar set of organs is exclusively appropriated.

Male Organs of Generation imperfectly developed.—This case occurred in the practice of Dr. B. E. COTTING, of Roxbury. The child had been regarded as a female, and when it was about two weeks old Dr. C. was called to operate upon it. The glans penis only appeared externally, surrounded, except on its under surface, by a pretty well-developed prepuce. Beneath the glans was seen the orifice of the urethra, which might be mistaken for the entrance to a contracted vagina. Beneath the urethra was a well-marked raphé, and on each side of this a loose fold of flesh, the testicles being felt at the external ring. The child has recently died of pneumonia, at the age of about three months, and the specimen was sent to the Society.

May 23. Fluid Congenital Cataract.—Dr. WILLIAMS reported two operations on a boy about nine years of age, who had never enjoyed any vision. The cataracts were of very large size, so that even when the pupil was largely dilated by atropia, no clear space existed between the circumference of the lens and the margin of the pupil. When the capsules were incised by the instrument, their milky contents were at once discharged, not even a nucleus of harder lenticular substance being perceived. The capsules were extensively divided, and the next day both pupils were found almost entirely clear, only slight turbidity remaining at the bottom of the anterior chamber. No inflammation occurred, and he was able at once to commence learning to distinguish objects by his eyes instead of by touch.

Prolonged Dilatation of the Os Uteri; with Protrusion of the Membranes; unusual Delay of Delivery.—Dr. STORER read the account of the case, sent to him by Dr. C. KOLLOCK, of Cheraw, S. C. The following is a condensed statement, taken from Dr. K.'s letter:—

On the 2d of November, 1852, Dr. Kollock was called to visit a young

woman, sixteen years and four months old, about seven months advanced in her first pregnancy, and threatened with miscarriage, having had pains for several hours previous to the accoucheur's visit. The pains, when first observed by Dr. K., were "strong and regular;" examination, *per vaginam*, detected "no dilatation whatever" of the os uteri. Anodynes, in large doses, with sinapisms to the back and to the abdomen, were ordered. No perceptible effect from the remedies for more than an hour, and during that space of time the pains increased much in violence, and became more frequent. When the remedies began to act, the patient became easy and disposed to sleep. A second vaginal examination detected the os uteri dilated to the size of a quarter dollar, the membranous bag protruding half an inch, and presentation of the head made out through the membranes. Patient now slept soundly for from four to five hours; awaking, she was entirely free from pain, and wished to leave her bed. Vaginal examination at this time found dilatation of the os uteri and the protruding membranes the same as at the previous trial. The patient was left in charge of a nurse, with directions to summon Dr. K. on any return of the pains.

November 4.—Visited patient, unsummoned. No pains; comfortable, except for constipation, referable to the anodyne remedies; a mild aperient directed. Examination, *per vaginam*, found parts and contents *ut antea*. Dr. K.'s visits were now made every few days, with the intention of closely watching for any change in the interesting state of things.

12th.—"Patient sitting up, at work; walks about the house; free from pain; appetite and digestion good; no difficulty in evacuating the bowels or bladder; os uteri and membranes unchanged."

22d.—"Patient not so comfortable; no uterine pains, but is troubled with constipation and a difficulty in voiding urine caused by pressure of the uterus on the neck of the bladder and on the lower bowels. Elevated uterus a little, and applied an 'abdominal supporter,' which had a happy effect; no change in os uteri and membranes."

December 2.—"Patient feels perfectly well in all respects. Vaginal examination detects no change."

11th.—"In all respects as on the 2d inst."

19th.—"Patient quite comfortable, with the exception of some difficulty in locomotion, which, strange to say, had not existed at any time previous; some little pain in the back." Os uteri and membranes same as on the 2d of November.

26th.—"Was called to patient about 4 o'clock P. M.; pains very slight; no increase in the dilatation of os uteri; membranes the same."

Dr. K. concluded to remain with his patient, believing her to be at her full time. In the course of an hour, the pains became strong and regular; the os uteri dilated rapidly. "In exactly two hours from the time of feeling the first pain, she was delivered of a fine healthy child." Placenta came away in thirty-five minutes from the expulsion of the infant.

"The mother has been perfectly well since the birth; the child is as healthy and fine-looking as the generality of children of its age."

Dr. K. adds his declaration that he is positive no change took place in the state of the os uteri from the 2d of November to the 26th of December, the day of birth; unless, indeed, there were changes between the examinations *per vaginam*, which he considers not at all probable. At each examination, Dr. K. was very careful to ascertain whether any change had taken place, and he could never detect the slightest. Reference is made by Dr. K. to Cazeaux, Ramsbotham, Dewees, and Lee, as affording him "no satisfactory solution of

the problem" which, he considers, the case presents. "Dr. Hodge, of Philadelphia," adds Dr. K., "speaks of *atony of the uterine fibres produced by anodynes*; but why (if such be the explanation), should it continue so long, and then action recommence just at the proper time?"

[Dr. MACKINTOSH, quoted in BLUNDELL's *Principles and Practice of Midwifery* (English edition, p. 104), says: "The rule, in practice, is not to leave the patient after the os uteri is dilated to about the size of a crown piece; but I have seen it as open as that a fortnight before the delivery, and once at the seventh month of pregnancy, though the child was carried the full time. In this case, even a little of the liquor amnii was discharged. At the eighth month, I have found the os uteri open to the size of half a crown, though the labours did not come on till the full time. When, in addition to the os uteri being thus much dilated, the pains are full and strong, the patient must not be left."—*Secretary.*

Incomplete Fracture of the Tibia and Fibula.—Dr. GRAY related the case, which occurred in the person of a child, six years old, who was standing on an iron rail-fence, and, in trying to jump down, was caught by the heel and left hanging in that position: he was seen by Dr. G. in fifteen minutes after the accident; the leg was much swollen; no crepitus heard; fomentations were applied, and the limb could afterwards be moved by the patient. It was supposed that there was effusion into the soft parts; subsequently, there was visible deformity; splints were applied for ten days, when the leg was found to be nearly straight; there is now only a slight unevenness of the tibia perceptible.

Dr. Gray referred to the Appendix to the American edition of Sir A. Cooper's work on Fractures and Dislocations, for remarks upon similar cases, under the title "Incomplete Fracture."

Dr. JACKSON mentioned a case of partial fracture of the rib; the outer table being broken, the inner, not; also one case wherein the fracture was *vice versa*; the same thing has been observed in the clavicle.

Dr. COALE spoke of the recuperative power of nature in setting these bent bones straight; instancing a case of a boy's arm, thus affected, and which the boy's father would not allow to be set or touched by Dr. C.; it, nevertheless, came to be perfectly straight.

Dr. Gray suggested that manipulation by the father's hands might, in this instance, have brought the limb straight, and then the bone was probably firm enough to keep it in the right position.

Dr. PARKMAN mentioned a similar accident occurring to a stout boy of seventeen years, who was carried round a revolving cylinder; the bones of the forearm were bent at an angle of 45°, and could not be straightened by bending them, conversely, over the knee; a splint partially remedied the difficulty.

Dr. C. E. WARE related a case, observed by him in a child of four years; nature did not remedy the deformity; the bones remained curved.

Dr. COALE thought that the muscles, at that age, might have sufficient power to retain the bones in a bent position.

June 13. Operation for Cataract on a Patient aged eighty-eight.—Dr. WILLIAMS mentioned an operation for soft capsulo-lenticular cataract on one of the oldest citizens of Boston, a gentleman upwards of eighty-eight years of age. He discovered the existence of cataract in his left eye, more than twenty years since; finding, on waking one morning, that he could not see

with this eye. The right eye continued useful till a short time since; but, within a few weeks, cataract has formed and vision has been lost.

An operation was performed on the left eye about the middle of March. As the lens did not offer sufficient resistance to the needle to admit of its being displaced, it was broken up, and the opaque portions of the capsule were removed, as much as possible, from the field of the pupil. No inflammation followed; his usual habits were so little interfered with that he was able to smoke his cigar every day after the operation, and the fragments of the lens rapidly disappeared by solution in the aqueous humour.

A secondary operation was performed two months after the first, for the removal of a small portion of the posterior capsule which prevented distinct vision. Six days from this time he could see, with the aid of glasses, as well as ever, being able to read the ship-news, or the finest print of a newspaper, with perfect readiness.

The rapidity with which the lens was absorbed, at the advanced age of the patient, and the perfect result, notwithstanding the long disuse of the retina, render the case interesting.

Singular reputed Origin of Gonorrhœa.—Dr. DURKEE reported a case of gonorrhœa, principally on account of the reputed manner of its communication to the patient, who was a young married man, whom he had attended for a cutaneous affection during the past winter.

On the 31st of March, the patient complained of a discharge from the penis, of slight scalding on passing urine, and of an itching sensation at intervals, which had continued for the twenty-four previous hours.

Upon examination, Dr. D. stated to the patient that the discharge and the other symptoms connected with it were such as persons usually experience after intercourse with females of bad character; in other words, that he regarded the case as one of gonorrhœa. The patient replied that he did not see how this could be; his wife was in perfect health, and he had never had intercourse with any other female. Dr. D. adhered to his opinion, and told the patient that he should prescribe as in any other case of gonorrhœa, and await the result; and added that physicians did not recognize but one way in which the disease could be communicated. The patient stated that a few hours before he discovered the discharge from the urethra, he had sexual intercourse with his wife: in about a week after this, she also had the same trouble, thus proving that the disease was gonorrhœa, and it was treated accordingly.

At the second visit, the man stated that he had made known his condition to his brother, who was somewhat younger than himself, and had been troubled with gonorrhœa for some time, and that on the evening of Tuesday, the 22d of March, he attended a ball, on which occasion he wore the elder brother's pantaloons, which he took from a closet without permission, and, returning late at night, hung them up again in their place. On the following Thursday morning, two days after the ball, the elder brother put on the infected pantaloons, and thus he explained the origin of his urethral discharge. The question is as to the truthfulness of this; and whether the laws which govern the action of animal matter, so far as we know them, are positively, and without any possible exception, entirely opposed to the explanation given by the patient?

Nothing is more common than for a man, with the disease in question, to deny having been exposed so as to take it in the usual way; it is almost a by-word among the profession, that such a denial is a strong evidence which we bring against the individual in forming our diagnosis; in this instance,

however, Dr. D. was inclined to receive the statement of the patient; and he presented the case in order to elicit the opinions of the members of the Society as to the communicability of the gonorrhœal virus in any other way than the ordinary mode; he, therefore, requested to know their experience in this matter.

Dr. HOMANS remarked that several years ago he had a similar case, and he had reason to believe that the disease was contracted without sexual intercourse.

Tubercular Meningitis complicated by intercurrent Measles.—Dr. STORER reported the case. A little girl, five years of age, on the 27th of May last, fell from a chair, striking the side of her head against the foot of a table. She made so little complaint that her mother did not deem it necessary to apply for medical advice until the 30th of May, when Dr. S. was called. He found her quite stupid, with an accelerated pulse; hot skin; constant motion of the head, and of the hands to the head; intolerance of light, &c. &c. The symptoms became gradually aggravated until the 8th of June, when a well-marked eruption of the measles appeared. Upon their presence, the child appeared less stupid, somewhat conscious, could more readily distinguish those about her, and the family were much elated at her revival. She appeared better during this and the succeeding day, but relapsed and died on the 9th inst.

At the *post-mortem* examination, which was performed by Dr. Charles D. Homans, the vessels of the dura mater were found distended with liquid, dark-coloured blood; those of the pia mater also were much congested; considerable lymph was noticed along the course of the vessels, most marked on the left side of the anterior lobe of the cerebrum. Substance of the brain was also much congested.

Ventricles considerably distended with clear serum. At the base of the brain much lymph existed about the pons varolii. In the fissure of Sylvius, on each side, the pia mater presented a sanded appearance, being sprinkled with whitish minute granulations.

In the centre of the left lobe of the cerebellum was a tuberculous mass, the size of a pea, yellowish in its centre, easily enucleated, and encircled by a border of inflamed cerebral substance.

As there was no tuberculous predisposition in this case, Dr. Storer thought that the rapidity with which the tubercles seemed to be developed, strongly favoured the theory of their being dependent upon inflammation.

Dr. CHARLES E. WARE alluded to a case of strongly marked cerebral symptoms simulating meningitis in a child five years old, where they appeared to depend upon a slight erythematous affection of the face, imperfectly developing itself. There was great restlessness, high fever, extreme dilatation of the pupils and insensibility, with blindness to light; incessant rolling of the head from one side to the other. These symptoms lasting five or six days, and subsiding on the appearance of a full eruption, from croton oil, on the back of the neck.

Dr. STEDMAN reported the following case: On the 4th of June, he was called on by Coroner Smith to visit a child, a year old, who had just died under peculiar circumstances.

It appeared that the infant had been left asleep on the bed by its parents; that while they were in an adjoining room, it had crawled to the edge of the

bed, near which, on a small table, stood a pint crockery bowl. It is supposed that in the act of falling the child reached out its arm and struck the bowl to the floor, and then fell upon the bowl; a triangular piece of which, resting in a vertical position on its semicircular edge, entered the cavity of the chest on the left side, above and parallel to the clavicle, where a wound was found of about an inch and a quarter in length, dividing important bloodvessels; the hemorrhage from which caused the immediate death of the child.

Morbid Growth on Sclerotic.—Reported by Dr. BETHUNE. Julia —, aged 15, four years ago first observed a small dark point at site of present disease.

On examination, half way between inner angle of left eye and margin of the cornea is seen a circular dark-brown spot in the substance of the sclerotic, of the size of the head of a large pin, and having the appearance of enamel, imbedded, but not raised, above the surface. It has very slowly increased from the time it was first perceived, and, after unusual exertion of the eye, she is sensible of slight pain at this point.

Nævus over the Knee-Joint.—Reported by Dr. J. MASON WARREN. This case Dr. W. related on account of its peculiarity. The nævus was of a black colour, situated over the inner part of the knee-joint below the patella. Until within two years, the tumour had been about the size of a dollar, but since then, a supplementary tumour has appeared underneath the original one, not soft, as is usually seen in these cases, but quite hard, and extending for some distance into the adjacent cellular membrane and apparently attaching itself to the synovial capsule. The whole tumour had also become extremely sensitive, so that even the contact of his clothes caused much suffering, and he was quite disabled from attending to business. It was impossible to make any satisfactory examination, the patient dreaded so much the slightest manipulations. He was dieted, and kept in the horizontal position for a few days, an evaporating wash being externally applied. This had the effect to relieve the tenderness in a slight degree. The whole tumour was now congealed by means of a freezing mixture of pounded ice and salt, then very freely cut up by a subcutaneous section of the hard basal tumour. The operation was entirely painless, and no unpleasant symptoms ensued. The vicinity of the knee-joint of course precluded any operation for the excision of the tumour. The above subcutaneous section was, therefore, once or twice repeated, and resulted in the absorption of a large part of the tumour, and diminished the sensibility so that it could be handled without suffering. He left the Hospital at his own request; otherwise, by a repetition of the above means, the complete destruction of the tumour would have been effected. Dr. W. showed a cast of the knee-joint, made by Mr. now Dr. Lane, of the Hospital, with the tumour coloured according to nature.

Dr. W. also showed another nævus in an ulcerated state, which he had lately removed. It was situated on the upper part of the calf of the leg. The patient was twenty-six years of age. Two years ago, the tumour had been injured, which was followed by much hemorrhage. In spite of treatment it had since remained in an ulcerated state. The skin around it was much inflamed, and, at times, very painful. It was removed by two elliptical incisions without any great bleeding.

§7

Impalement upon a Pitchfork-handle, entering per Vaginam: Recovery.—Dr. SARGENT, of Worcester, reported the case, which had occurred in his

practice nearly two years ago. A lady, of about 37 years of age, who had borne several children, the last about three years previous to the injury about to be mentioned, and whose last menstrual period had been about a week before, her bowels also being in good lax condition, in sliding down from a hayloft, impaled herself upon the handle of a pitchfork, which passed in at her vagina to the length of twenty-two inches, when her feet struck the ground. The handle was immediately withdrawn, the patient carried into the house, and Dr. S. sent for. He found the patient, half an hour after the injury, lying on her back, with the thighs flexed, and the skin cool, pale, and moist (as if from fright), and the pulse not much accelerated. There was no external injury, and no physical evidence of effusion into abdomen or thorax, and no urine nor feces on the garments, nor about the person, nor on the field of the accident, nor on the handle of the fork. There was some blood flowing from vagina. Patient passed water during the visit, and it was not stained with blood. She complained most of pain in the left thorax, on a line with the scapula. Dr. S. saw the handle of the fork, which was rounded, a little larger at the end than elsewhere, perfectly smooth, two inches in diameter, and showed distinctly the stain of blood up to an abrupt line, twenty-two inches from the end.

Dr. S. theorized, in this case, that the instrument must have perforated the vagina at its upper part to the left, and gone between the uterus and rectum. [If it had gone to the right, it would have perforated the cæcum.] The form of the instrument would make it much easier for it to pass between than to perforate organs, and Dr. S. supposed that it passed in front of the kidney, behind the spleen and between the diaphragm and false ribs, peeling up the costal pleura till it reached the scaleni muscles. The subsequent history of the case, which showed a fracture of the first rib, while, also, there was at no time any effusion into the chest, proved this diagnosis correct. Supposing that the greatest safety of the patient was in what might be called *forced rest*, Dr. S. gave her one grain of morphia (by estimate), and bound her chest firmly with a broad bandage of new flannel, placing a towel, wet in cold water, between this and the skin. The morphia was repeated in an hour, and one-third of a grain three hours after. Patient passed water repeatedly in first twenty-four hours, without trouble and without blood, and passed coagula from the vagina. The day following, there was emphysema above left clavicle; and, the day following, crepitus in left axilla high up, as if from fracture of bone. There was at no time any evidence of pneumonia or pleurisy, though there was deficiency of respiratory murmur in left chest from the pain in its expansion, the percussion remaining good.

The pulse stood at 120 for several days, and the opiates were continued about as long.

The injury was inflicted the 7th of August, 1851, and Dr. S. was in daily attendance for nine days; and, occasionally, afterwards, for three weeks. The recovery was entirely favourable, the patient being left only with an ill-united fracture of the first rib, over which there was some painful swelling for several weeks, which ultimately subsided, leaving an osseous prominence in the supra-clavicular region, in intimate relations with the scaleni muscles.

Yellow Vision in Icterus.—Case reported by Dr. LYMAN. This symptom occurred in a married female, æt. 35. Has had duodenal dyspepsia for six months. Patient first seen May 24. Complained of severe epigastric pain, nausea, constipation, headache, and general *malaise*. Appeared, at that time, very slightly jaundiced. Coloration gradually deepened until 30th, at which

time the whole surface was of an intense yellow, urine highly coloured, feces very pale, no cerebral symptoms. Patient complained, for the first time, that the linen bedclothes looked yellow, and that everything in sight appeared either yellow or covered with bright yellow spots. A close examination revealed numerous yellow patches, of the size of pins' heads, upon the irides, and a rim, not more than half a line in width, of enlarged vessels encroaching on the circumference of the cornea. Aqueous humour *apparently* clear. This state of the vision continued between two and three days, and then rapidly disappeared.

It is well known that the occurrence of this symptom has been denied by Mercurialis, Haller, Heberden (who calls it a poetical fiction), and Chapman. [*Vide* Copland, article Jaundice.] Frank found it present in five only out of one thousand cases. Neither Andral, Grisolle, Desmarres, nor Wharton Jones, allude to it. Mason Good, however (vol. i. 203), describes it as having occurred in his own person, and his American editor cites several cases on the authority of Hoffman, Dr. James, Alibert, Dr. Pemberton, and Dr. Elliotson. Some valuable pathological remarks on this subject, by the late Dr. Graves, of Dublin, may be found in the first volume of *Stokes and Bell*, p. 522. Considering the extent to which all the secretions [excepting the mammary] are tinged in jaundice, the only wonder would seem to be that the phenomenon should not be of more common occurrence.

Anencephalous Fœtus.—Dr. WILLIAMS exhibited a female anencephalous fœtus of about seven months, presenting the usual characteristics of this imperfect development. The patient was a primipara. The malformation was attributed, *by the friends*, to her having witnessed copious secondary hemorrhage after operations upon a young woman for the removal of erectile tumours of the ears.

Foreign Substance in Cornea during one Year; Anterior Chamber penetrated; Aqueous Humour discharged, and Surface of Iris wounded; Recovery.—Reported by Dr. BETHUNE. Samuel L., carriage-maker, one year ago received a piece of steel in left cornea, which has remained there ever since. The eye has been weak, but he has been able to work from time to time.

On examination, a small cretaceous mass covers the ulcer of cornea. On removing this, the fragment of steel is seen lying perpendicularly nearly through the whole thickness of the cornea, near lower edge of pupil. It was removed with considerable difficulty with a curved needle, but in accomplishing this, the anterior chamber was penetrated and the aqueous humour discharged. The surface of the iris was touched by the projecting fragment and slight bleeding followed. The after-treatment was simply a saline cathartic, cold applications, strict rest and diet, with the daily application of stramonium.

Two days after his admission to the Infirmary, he was discharged at his own request. He declared the sight to be as good as it ever was. The anterior chamber had not yet entirely recovered its normal size, and a small opacity remained around wound of cornea. Pupil partially dilated by stramonium.

June 27.—Pericarditis, Hypertrophy and Dilatation of the Heart; Pleurisy; Death from a Copious Effusion into the Right Pleural Cavity.—Reported by Dr. G. C. SHATTUCK, JR. A delicate youth, æt. 17 years, entered the Massachusetts Hospital, March 28, 1853. He had been suffering from cough, shortness of breath, weakness, pain of the left side for six weeks, and had taken

codliver oil. The heart was found beating at the *scrobiculus cordis*; there was a marked prominence of the cartilages of the sixth and seventh left ribs. The left thorax measured one foot three inches, the right, one foot four inches. Strong impulse of heart, flatness over fourth, fifth, sixth, and seventh ribs, and from middle of sternum to the back, which was flat below the spine of the scapula. Bronchial respiration and ægophony in the same region. Both sounds of the heart distinct at the base, replaced at the apex by a strong *souffle*. Pulse 82, quick, regular. He reported his general health as good, no long illness; an occasional stiffness of the knees the principal infirmity. He was blistered and put upon a course of alteratives, diaphoretics, and anodynes. There was improvement generally and locally. The respiration was heard at the point of the right scapula on the 4th April; and still ægophony on the 6th. He was very reluctant to keep his bed, and on the 11th, after exposure to cold, he was attacked in the night by pain in the left side, and increased dyspnoea. The physical signs of increased effusion were present. On the 13th, the heart was still found beating at the *scrobiculus cordis*. There was a loud smooth murmur with the first sound over the lower left chest, but over the base of the heart, the murmur followed the second sound. On May 4th, the following sound of the physical signs was made—one distinct sound followed by a loud and smooth murmur; pulse 94. On the 14th, he had another attack of pain and distress after exposure to cold; dulness of bronchial respiration over left lower back was noted on the 16th. On the 18th, flatness at point of left scapula. On the 23d, a crepitant rale was heard distinctly over the lower left back, and there were one or two pneumonic sputa. These disappeared with general improvement. On the 1st of June, he complained of swelling of the feet. He was disposed to sit up and to walk about as much as possible. June 6th, another attack; flatness, bronchial respiration, ægophony over lower right back. This did not yield to blisters; diaphoretics and alteratives exhibited as far as the strength of the patient admitted. There was still dulness and feeble respiration over the left lower back; inclination to diarrhoea. On the 24th, he could not lie down on account of the dyspnoea, suddenly aggravated, and he died on the 25th.

At the autopsy, the right thorax was filled with a straw-coloured serum, the lung somewhat compressed, but easily distended by air; free from adhesions. Slight adhesions of left lung; splenification of lower lobe. Hypertrophy and dilatation of heart quite marked. Several layers of false membrane between pericardium and heart. Insufficiency of aortic valves, which were thickened, smooth, and pale. Auriculo-ventricular valves not remarkable. Redness of lining membrane of right auricle. The organs in the abdominal cavity were examined. The gastro-intestinal mucous membrane not remarkable for colour or consistence.

The murmur in this case must be attributed to the insufficiency of the aortic valves, caused not so much by disease of their lining membrane, as by the abnormal situation and hypertrophy of the heart. The patient was killed by the rapid effusion into the right pleural cavity, but the pericarditis and pleurisy were the assigned diseases, to the effects of which, aggravated by exposure to cold, the subsequent phenomena in the case must be referred. The pulse was always quick and regular, the cough was never a troublesome symptom. He had two attacks of pleurisy and one of pneumonia whilst in the hospital. The effusion into the right pleural cavity, which proved fatal, was not accompanied with signs of inflammation. The patient's life might have been saved, for the time, by puncturing the thorax, but it could hardly have been much prolonged.

Hemiplegia: Rapid Recovery.—Dr. S. D. TOWNSEND related the case: A gentleman, 60 years of age, a large eater, but abstinent, entirely, in regard to liquors, was suddenly seized with hemiplegic paralysis of the right side, while walking on the street; he was observed to drag his right leg, and finally fell at the door of his house; distinct articulation was entirely suspended through the night. Six leeches were applied to the left temple, and an ounce of salts administered the same evening. He could stand and walk the next day, and wished to be driven out in a carriage. On the third day there was no appearance of paralysis remaining.

July 11. Membranous Croup: Recovery.—Dr. STORER read the following account of the case, which was prepared by Dr. WM. READ, of Boston. "The following record of a case of membranous croup is offered to the Society, not so much from any idea that the course pursued presents any new or peculiar features, as from a feeling that the profession cannot fail to be interested in any mode of treatment which has proved successful in this usually intractable disease.

June 29, 1853.—I was called to see a child four years and three months old, of dark complexion and robust constitution, who had been unwell since the preceding Friday with what its parents called "a worm turn." From the answers I obtained, I was led to suppose that the case was one of irritation in some portion of the alimentary canal, and accordingly prescribed the following: R. Hyd. sub. mur. grs. vj; Jalap. pulv. grs. viij. M. Ft. chart.

30th. He was attacked with great dyspnœa, and unmistakable croupy symptoms developed themselves. With the greatest difficulty I obtained a sight of the fauces, which appeared covered with a coating of lymph over their whole aspect, with a few spots of ulceration here and there. Voice entirely gone. A solution of argent. nit. of the strength of forty grains to the ounce of water was immediately applied by means of the sponge probang, to the whole of the mucous membrane visible, and also as far down the trachea as it could be carried. The withdrawal of the sponge brought up on it a piece of white substance about three-quarters of an inch in length and half an inch in breadth. It was white, of very firm texture, and could hardly be distinguished from a similar portion taken from the coats of one of the large arteries.

For an alterative he was ordered one grain of hyd. sub. mur. combined with one and a half grains of Dover's powder every three hours, and the following mixture in doses of a teaspoonful as often as the symptoms seemed to indicate vomiting. R. Tinct. lobeliæ; vin. ant. tart. aa ʒi; tinct. sanguin. can. ʒss. M. Also, as an external application, the following liniment: R. Ol. olivæ ʒi; liq. potass. ʒii; ung. hyd. ʒi. M. To have the room filled with the vapour of boiling water.

July 1, 8 A. M.—Much the same. Breathing no better. During the night had frequent attacks of dyspnœa. Passed the sponge, charged with a solution of argent. nit. Continue other treatment.

1 P. M. Met Dr. Storer in consultation, who advised a thorough trial of the treatment begun. By his consent, Dr. Bartlett's apparatus for producing vapour in a sick room was procured and put into operation.

7 P. M. No change in patient. Applied sponge to throat.

2d. 6½ A. M. Found patient about the same. Dyspnœa not increased. The steam apparatus works well, and the air of the chamber is fully charged with vapour. During the night, patient vomited freely and brought up a

considerable quantity of the membrane in shreds. After the application of the sponge, the cough appeared much looser. Continue other treatment.

12 M. Respiration easier. Cough looser. Cannot yet articulate audibly. Speaks in a shrill whistling whisper. May take the powders once in six hours instead of every three hours.

8 P. M. Applied the sponge. Respiration the same as at last record.

3d. 6½ A. M. Patient has passed a comfortable night. Now, there is apparently no difficulty of respiration, but the voice has not returned. Fauces still covered in spots with membrane and patches of ulceration, while the colour of the mucous coat is deeper than natural. Applied the sponge. Continue other treatment.

1 P. M. Respiration good. Is fully under the opiate influence of the powders. Has expectorated, since last visit, a considerable quantity of very tenacious muco-purulent substance, in which are to be seen comminuted shreds of membranous matter. Cough loose. No dejection since July 1. May have a dose of castor-oil.

4th. 6½ A. M. Has passed the night free from dyspnœa. No dejection from medicine. Gums show that mercurialization has taken effect. Omit powders until night. Throat almost free from membranous deposit. Two ulcers only remain, at the edges of the uvula. Applied the sponge. Repeat cathartic.

5½ P. M. Remains comfortable. No appearance of lymph in throat. Mucous membrane has almost recovered its natural hue. Tongue begins to clean. Circi. is a little stronger. May have powders through the night. Appetite begins to return. Dr. Phipps present at this visit. Mucous râle can be heard over whole extent of both back portions of the lung.

5th. 7 A. M. Still remains comfortable. No return of dyspnœa. Throat clear from lymph. In the left lung the mucous râle is still to be heard; in the right it is not so evident. No roughness beyond what is natural can be detected in the region of the larynx. No dejection yet.

6th. Condition still improving. Tongue nearly clean. Ulceration on uvula fast disappearing. Membrane of the throat looks healthy, and of a natural colour. May have senna tea enough to produce free catharsis.

7th. Senna operated well. Patient is apparently well. Voice pretty strong, although it has yet a roughness and a tone that seems to be peculiar to the disease.

Ceased attendance.

Throughout the whole time of treatment, the pulse has maintained its natural rate, and the skin has been moist and free from fever.

The above is submitted with the single remark that the influence of the vapour upon the respiratory function was evident and highly beneficial. As long as the air of the room remained fully charged with steam, the breathing was comparatively easy and the cough sounded loose. Whenever the amount of moisture grew small from the subsidence of the heat under the boiler, the opposite condition was immediately noticed. Indeed, this was so evident to those who had the charge of the little patient, that no precaution was needed, on my own part, to insure an ample supply during the course of the treatment.

Tubercular Disease: Crepitous Râle at the Base of the Lungs.—Dr. BOWDITCH alluded to two cases of evidently tubercular disease, recently seen by him, and in which he noticed the rare phenomenon of an explosion of fine crepitous râle towards the base of the lung. He had seen a few such

cases during the past ten years. Sometimes the râle disappears after a few weeks. Generally, however, it lasts without change for several weeks, or even months; and, according to Dr. B.'s experience, cavities gradually form in these parts. At times, this râle is the sole physical sign. At others, it is united with the more common ones at the apex. Often it is very local, occupying a space not larger than the palm of the hand. It may, on the contrary, occupy the whole of the lower lobe. It is exactly similar in its characters to the crepitus of pneumonia, and when existing generally in a lobe, it may deceive the practitioner, making him think that acute inflammation actually exists. The rational signs, the non-prostration of the patient, absence of fever and of characteristic sputa, will, however, enable him to decide. In the earlier cases seen by Dr. B. he was thus deceived, and applied in vain the usual antiphlogistic remedies—leeches, blisters, mercurials—without the least change in the sound, or effect on the progress of the complaint.

Frequency of Abnormal Presentations in the same Individual.—Dr. STORER remarked that several years since he reported to the Society the case of a patient, who, in five accouchements, had had three arm-presentations. He had met with no case equally striking until since the last meeting. A few days since, he attended a woman, in her seventh labour, with an arm-presentation. She had previously had two arm-presentations, two foot-presentations, and two presentations of the head.

Dr. S. remarked that the subject had been spoken of by writers upon midwifery, and accounted for by some supposed peculiarity of the pelvis.

Staphyloraphy.—Dr. J. MASON WARREN. Dr. W. said that during the last few months he had operated on four cases of fissure of the soft and hard palate, in which the separation of the bone was very wide, and the soft parts were, with much difficulty, made to reach across the gap. After the union of the soft palate, the hard palate, alveolar processes, and teeth had been supplied artificially, and the voice, in some of these cases, was as much improved as in some instances after a perfect union of a simple fissure in the soft palate. He had found that, if sufficient union was effected low down, so as to restore the arch of the palate, the adaptation of an obturator to the remainder of the opening was efficient in improving the speech; so that no cases need be rejected on account of the width of the fissure if the smallest chance existed of bringing the most movable portion of the soft palate in contact. Dr. Dixon, dentist, in Winter Street, had very skilfully arranged the artificial palate and teeth. A small bit of vulcanized India-rubber was fixed to the back part of the plate where it comes in contact with the soft palate, the better to prevent the passage of air.

Fissure of the Cerebrum by Contre-Coup.—The specimen was exhibited to the Society by Dr. CABOT, who saw the patient in consultation with Dr. E. A. W. HARLOW, who sent the following account of his attendance:—

He was called to the patient on Tuesday night, July 5, at 10 o'clock, about thirty hours after the reception of the injury received. Two or three questions addressed to him by Dr. H. were readily answered; subsequently there was disinclination to reply. Dr. H. learned that the patient had been kicked in the abdomen, and afterwards knocked down, on the 4th of July. When he fell, the back of his head struck the pavement; he shrank from pressure made over the stomach; no convulsion observed and no paralysis evi-

dent; both pupils immediately contracted, without appearance of pain, when a light was held near to them; pulse 56, moderately full, rather feeble.

On Thursday morning, July 7, patient appeared perfectly rational, and answered Dr. H.'s questions without hesitation. On inquiry, slight indistinctness of sight, and some difficulty in hearing were complained of; pulse 48.

Friday, 8th, indisposed to answer questions; pulse 56.

Saturday evening, 9th, there was a change in the symptoms; it was reported that the patient had passed a better night than he had since the injury, but that in the course of the forenoon he became more delirious than previously; the pupils did not contract under the influence of light; the skin was hot; pulse 120, but not hard; his bedroom was excessively hot.

Sunday morning, 10th, Dr. CABOT saw him in consultation; at 12 o'clock, M., death occurred.

Treatment.—The administration of cathartics; the application of cold to the head; the occasional use of ammonia when great debility was manifested; and, on one occasion, an opiate, to procure sleep.

The wife of the deceased states that he vomited everything taken into his stomach for the first two or three days, and then the vomiting ceased; that he often complained of pain in the head; that he was delirious almost all the time, and that the neighbours said he had *the horrors*; that he got little or no sleep; and that it was with great difficulty he could be prevailed upon to take any nourishment.

Dr. CABOT added the following account of the state of the patient at the time of his visit, and gave the results of the *post-mortem* examination, which was made by him:—

When first seen by Dr. C., the patient was lying on his back, breathing very rapidly (panting), the respiration accompanied by a coarse crepitous râle, so loud as to be heard across the room; the face was livid; the pupils of the eyes dilated, not influenced by light; pulse very quick, and small, and feeble; hands cold; when questioned a response would sometimes be given by pressure of the hand. Death occurred four hours after this visit.

Post-mortem examination, twenty-four hours after death. Externally, well-developed; moderately fat; a slight cut on the upper lip; a bruised spot an inch in diameter over right occipital protuberance, extending through the scalp and slightly colouring the pericranium; skull rather thin. On removing the calvarium, the dura mater was seen to be of an unusually dark purple colour, owing, apparently, to the distended vessels beneath. On removing the dura mater, the external vessels were seen to be very much distended, giving an exceedingly dark appearance to the whole surface of the brain; on top, and a little in front of the centre of the left hemisphere, a dark purple spot, of the size of a dime, was observed, on cutting into which about $\frac{1}{2}$ of dark fluid blood escaped from a fissure extending into the substance of the brain, from the walls of which a reddish-brown colour extended to the depth of one-fourth of an inch, and the part thus coloured and the surrounding part to some distance was found to be very decidedly softened. Under the arachnoid following the lines between the convolution, cloudy serum was seen, in abundance. Lymph was found over the superior and inferior surfaces of the cerebellum. Red points were more than usually apparent throughout the substance of the brain. There was no fracture of the skull.

The point of particular interest in this case is that the fissure was found at a point almost precisely opposite to that at which the blow was received, and without fracture of the skull. Authors, very generally, admit the possibility of this, though none, that Dr. C. has consulted, state the fact to have occurred;

they all mention fracture of the skull in almost all parts of its circumference, as not very infrequent from *contre-coup*.

Professor R. D. MUSSEY, who was present at the meeting, related a similar case; the only one of the kind he had ever met with.

Calculi passed per Urethram.—Dr. BACON exhibited three small calculi passed with the urine by different male patients. Two are of an oblong oval shape, and about one-third of an inch in length. They are studded with brilliant crystals, producing a very rough surface, and occasioned great pain during their passage through the urethra. Their colour is a pale buff. Notwithstanding the similar appearance of these two calculi, their chemical composition is entirely different. One is composed of triple phosphate, with a little phosphate of lime and organic matter. The other consists of oxalate of lime, with a very small proportion of phosphate of lime and organic matter. The crystals which stud its surface are nearly pure oxalate of lime. Under a magnifier, their form appears to be octohedral, like the microscopic crystals of this salt which so frequently occur in urinary deposits. This is the fourth instance in which Dr. B. has examined crystalline calculi of oxalate of lime.

The third calculus exhibited is rather smaller, oval in form, and of a dark brown colour. Its surface is covered with minute tubercles, presenting, on a small scale, the usual appearances of a mulberry calculus, with which it agrees in chemical composition, containing the same ingredients as the second one described above.

Necrosis of Humerus—Amputation. By Dr. J. MASON WARREN.—The patient was 21 years old. Three years ago, after getting wet, he was seized with an inflammation in the vicinity of the elbow-joint, and suppuration ensued. After a time bone was discharged. Other parts of the arm were subsequently attacked, and much bone removed. In the course of the disease the shoulder-joint and the elbow-joint became ankylosed, leaving the hand fixed in strong rotation over the pubes, only a slight lateral action being permitted by the movement of the scapula on the body. Very large sequestra still remained, and from the position of the hand and loss of use of the joints, it was thought that even if all the dead bone was removed, the limb would be left useless. Amputation was therefore decided on. Some difficulty was experienced in fixing on the point for removal. If the section was made above the apertures in the head of the humerus, it would be difficult to get a flap from the inside on account of the size of the new bone, which was forced close upon the ribs, obliterating, as it were, the axilla. On consultation, it was decided to amputate a few inches below the shoulder, removing the sequestrum afterwards. This was done, and a large bit of dead bone forcibly extracted. The axillary artery, from the confined position of the wound, was secured with some difficulty, as had been apprehended.

The patient left the Hospital about four weeks after the operation, much improved in health, and the wound in a healthy condition. Previously to leaving, another piece of bone was removed from the large, box-like cavity which formed the head of the humerus.

July 25. Croup in the Adult.—Dr. JACKSON exhibited the specimen, taken from a woman whom he had examined with Dr. H. J. Bigelow, a few days ago. She was 27 years of age; had had sore throat, to which she was subject, three or four weeks before death, and never got quite over it. On Wednesday, the 20th inst., she passed the evening out, in company, and thought she

took cold. On Thursday, there was marked soreness of throat. On Friday, and until death, aphonia and dysphagia; this last being so urgent that she was able to take very little food, and felt, in consequence, very weak; nursing, at the time, a child nine months old. Her husband saw something white in the throat on Saturday; some heat of skin on Monday; was fully dressed on Saturday, but not down stairs after Friday. On Monday morning took tinct. of lobelia from a nurse, and threw off considerable mucus, with much relief to throat; no farther vomiting; the breathing, however, seems never to have been urgently oppressed, nor was there much cough. Slight incoherence on Monday evening, and, about the middle of the night, having nursed her child only half an hour before, she sank without any marked distress, and died.

On dissection, a thick and continuous tube of lymph was found to extend from the larynx, downwards, into the secondary and some of the still smaller bronchiæ; under surface of epiglottis mostly covered with the same, with scattered patches in the pharynx, and upon the upper surface of the soft palate. Two portions of lymph, of considerable size, were found lying loose in the pharynx, and it was thought that these may have obstructed the glottis, and explained the suddenness of the death at last. With the lymph there was a considerable quantity of viscid mucus, as usual in the croup of children. Lungs healthy; no other disease.

Dr. J. remarked upon this as only the second case of croup in the adult that had occurred here, so far as he was aware; the other case being that of the Hon. Mr. Chapman, late Mayor of the city, and in whom the disease was complicated with erysipelas.

Strangulation of the Intestine by the Appendix Cæci.—The case occurred in the practice of Dr. H. M. LINCOLN, of Westminster; and the specimen, which was exhibited, was brought from the country by Mr. J. L. WHITE, one of the house-physicians of the hospital. Mr. W. also sent the following history of the case:—

The patient was a female, æt. about 40. About two months before her death she was thrown from a carriage, and injured so severely as to be confined to bed for four or five weeks. About six weeks from the time of the accident, and when she was quite feeble, she rode between two and three miles over a rough road, and in a wagon, the body of which set directly upon the axletree. At the time, she complained much. After returning from her ride, she again took her bed, from which she never arose. The next day, she was visited by Dr. Lincoln, who found her delirious, and with strong febrile symptoms. In the course of a few days, there began to be symptoms of peritoneal inflammation; patient inclining to lie on her back with knees drawn up; and soon there was tenderness over the region of cæcum, which gradually extended over the whole abdomen. Efforts were made from the first to procure an evacuation from the bowels; but with only partial success. There was no more vomiting than would have been caused by the active cathartic medicine she took. Abdomen tumid; some colicky pain; somewhat feverish and occasionally delirious from the first; much prostrated.

On dissection, there was found a considerable quantity of sero-purulent effusion, with some lymph. Intestine much distended with gas and liquid above the strangulation; empty and contracted below. The appendix cæci adheres strongly to the mesentery by a fibrous band, which is prolonged from its extremity, and is not larger than a small knitting-needle. The very lower extremity of the ileum to the extent of about five and a half inches, is the

portion strangulated; but the strangulation was by no means perfectly tight, even in the recent state.

Dr. JACKSON, who communicated the case, remarked upon the peritonitis as a very unusual occurrence; he had never met with it in a case of internal strangulation, excepting once, and then it was owing to a perforation of the intestine at the seat of the strangulation.

Occlusion of the Vagina: Operation: Recovery.—Dr. STORER read the following cases, sent to him by Dr. BRAINARD, of Chicago.

July 7, 1852, I visited Mrs. —, a young married woman, æt. 19 years, in the central part of Wisconsin, on account of an obstruction of the vagina.

On attempting to pass the finger into the vagina, it was arrested at its very orifice. Immediately behind the carunculæ myrtiliformes there was a firm cicatrix which entirely shut up the passage, there being a transverse band from side to side, both above and below which there was a slight depression scarcely half an inch deep. On introducing a catheter into the bladder, and the finger into the rectum, the septum seemed thin, and not as thick as the natural septum of the bladder and vagina. The uterus was felt distended, filling up the cavity of the pelvis, and rising so as to be felt in front two inches above the pubis. She was constantly affected with severe expulsive pains.

This young woman, who was but 19 years of age, and presented appearances of not fully developed womanhood, was married on the 8th of October, 1851. About the 20th of November following, she was attacked with great pain, hemorrhage, profuse discharge of pus and mucus. There was constitutional disturbance of the severest kind, and her life was despaired of. There followed a discharge of shreds and sloughs, horribly offensive, which continued several weeks. This attack was taken for an abortion, but without good reason. It was simply a violent case of acute vaginitis, from too frequent sexual connection with the sexual organs imperfectly developed. She informed me, in answer to inquiries, that coition was very painful, and became more and more so.

Pains, indicating the return of the menstrual period, occurred Feb. 1, 1852, and recurred twice at four weeks' interval without discharge. From that time, the pains were continuous up to the time the operation was performed, the uterus gradually enlarging.

Operation, July 8, 1852. The patient being placed in a suitable position, an incision was made from before backwards through the band before described, extending the diameter of the vagina. The sides being separated by the finger, it was found that the mucous membrane of the rectum could be separated from that of the bladder with the point of the finger, without great violence. When a band of tissue resisted, it was divided with a blunt-pointed bistoury. The separation was freely made to the uterus.

Here, however, instead of finding the os uteri, nothing but a smooth round tumour presented itself. The finger was carried over its surface, and the surface denuded for a space at least two and a half inches in diameter. Finding no mouth, I determined to make a puncture at a point where a slight elevation was felt, and where it was presumed the os had been situated before it sloughed away. Accordingly, I made an incision in the form of two-thirds of a circle an inch in diameter, raising up a piece attached towards the anterior part. There was a copious discharge of the menstrual blood. The wall of the uterus was thick, and gave the sensation of fibres in cutting. Passing the finger within, a slight depression was found opposite the little tubercle

noticed externally, seeming to confirm the idea that this was a vestige of the neck.

After treatment, a tent, or pessary, one and a half inches in diameter, made of pieces of sponge strung together upon a stick, and covered with oiled silk, was passed into the artificial vagina. The point was sufficiently small to press into the opening of the uterus, and the whole long enough to project externally. The case was intrusted to the care of Dr. Robert W. Earll, to whom, and to Dr. Axtell, I was indebted for assistance.

Not a bad symptom occurred; no swellings, and but little inflammation. August 25, she was able to walk from her room without difficulty.

Four months after the operation, Nov. 8, she was well, doing the work of the house, and able to ride several miles. The cicatrization was perfect, at least that was Dr. Earll's opinion. The menses have occurred regularly without pain, excepting the first, August 20, which was painful. She is unwilling to dispense with the pessary, as she experiences a sensation of falling of the womb without it, even when lying. Sexual connection is not painful, and there is no tendency to contraction.

May 30, 1853.—She continued in the same satisfactory condition.

Occlusion of the Vagina and Uterus.—I was called, May 25, 1853, to visit a patient with the above difficulties.

She was a young and healthy woman, who was delivered of her first child in January, 1853. The labour was difficult, lasting forty-eight hours, and was finished by cephalotomy.

About the 1st of April, 1853, Mrs. C. discovered that the vagina was closed.

On examination, it was found, indeed, that a perfect closure existed, commencing immediately behind the orifice of the canal, and extending back as far as the finger in the rectum could reach.

Being consulted at the time it was discovered, I advised no operation to be performed until several menstrual periods had passed, and the uterus and vagina were distended in some degree with the fluid.

Early in May, they wrote me that such was the case, which I found afterwards probably was not so.

May 25, 1853. I performed the operation in the same manner as in the case of the former patient.

The vagina was entirely obliterated and adherent, except a small piece in front of the os uteri.

The os and cervix were found of their natural form and position; but the os was closed. There was no distension with menstrual fluid. An incision was made across the mouth of the womb, and a catheter passed into it. A large tent, one and a half inches in diameter, was passed into the vagina, and the patient put under the influence of a full dose of morphia.

July 7. I have not yet received a report of the progress of the case from the physicians who had charge of it.

Tubercular Meningitis in the Adult.—Dr. JACKSON reported the case, which has lately occurred under his care at the hospital. The patient was a healthy-looking young man, nearly 21 years of age, and entered on the 16th inst. Having had dizziness, with blurring of the sight, for about two weeks, headache supervened on the 4th inst. For the two following nights he worked at his business as a baker, and then gave up. On the 7th, delirium came on, and continued as the most marked symptom; being so active, on his

admission into the hospital, that, after the first night, he was removed from the ward. History given by a friend. There had been scarcely any vomiting, which is so very marked a symptom in this disease; but the bowels were very costive. After admission, the delirium soon subsided; and from the morning of the 18th until his death, which occurred on the evening of the 21st, there was profound coma during most of the time. Drooping, and, towards the last, closure of the right eyelid. Pupils dilated, and fixed. Eyes not particularly congested. Urine quite abundant, as it seems to be not unfrequently in this disease; but retained from the evening of the 18th, so that the catheter was required twice daily. Groping with the hands and picking at the bedclothes was a marked symptom for three or four days after admission. On the 20th, the nurse reported that he had not moved his lower extremities for the last twenty-four hours; and he certainly could not then be made to move them by irritating the soles of the feet, though sensibility was manifested. The tongue was dryish when last seen; he took no food after about the second day, and was often choked by drinks. Abdomen retracted. Pulse 84 on the 17th; 162 on the 20th. Respiration diaphragmatic, but not otherwise remarkable. Emaciated much after admission. Heat of skin moderate, having been much increased before admission.

On dissection, there were found in the head very much the usual appearances; the convolutions over the convexity being rather less flattened, and the arachnoid surface there rather more moist than usual. Serous effusion at the base, with opacity of the membranes, but with very indistinct appearances of lymph; $\frac{3}{4}$ of serum in lateral ventricles; central portions of the brain extensively softened, and generally to the degree of diffulgence. The surface of the brain also, at the base, anteriorly, was in some parts equally soft, and came off with the membranes when they were raised; in one place, "capillary apoplexy" was seen with the softening to the depth of perhaps one-third of an inch. Pia mater red, fleshy, and finely granulated at the base, as usual.

In the thorax, there was found old disease of the glands about the lower part of the trachea, with a trace of suppuration. At the apex of the left lung was a small amount of disease, apparently quite recent, and peculiar in character. There was, first, a small deposit of lymph; and near it another deposit, mixed with pus, and surrounded by deep ecchymosis; between the two were two or three minute whitish points, which may, perhaps, have been tubercles; but, if they were, they were the only traces of them that were found in the thorax. Lungs otherwise quite healthy; universal old pleural adhesions on the right side, the left being free, except to a very small extent at the diseased apex.

Dr. J. remarked upon the comparative frequency of tubercular meningitis in the adult, as observed here.

August 8. Hermaphroditism.—Dr. W. I. BURNETT gave an account of a remarkable case of hermaphroditism, the parts of which he had recently enjoyed the opportunity of carefully examining at Cleveland, Ohio. The case has already been described by Dr. Blackman, in the number of the *American Journal of the Medical Sciences* for July last, and has attracted no little attention; but Dr. B. thought the subject worthy of a farther mention.

The individual from whom the structures were taken was a male, 28 years of age. Nothing is known of his early life. He was of English origin, of rather a simple mind, and an hostler by occupation. The last eighteen months of his life were spent in the service of a physician in Cleveland. During this time, he disclosed none of his peculiarities, but was known to be strangely

unwell regularly every month. He manifested rather an aversion to female society, and appeared rather free from sexual passion. He died from cerebral congestion, during one of his monthly attacks. His body was used for anatomical dissection, during which his sexual anomaly was accidentally discovered. At that time, the female parts appeared like those of a normal female during menstruation; the uterus was filled with blood, as well also as the vagina, and its continuation into the urethra even through the penis. The parts, with all their contiguous tissues, were immediately dissected out carefully from the body, and preserved. The pilose system of this individual was feebly developed; beard scanty; pelvic and thoracic formation that of a female, excepting mammæ, which were male. Such is the account kindly furnished by Professor Ackley, of Cleveland.

The following is Dr. Burnett's statement of an anatomical examination of the organs:—

Male parts.—Penis of normal size and structure, and presenting the appearance of that of an adult rather than of a boy before the age of puberty. Scrotum normal, but empty.

The urethra, prostate gland, vesiculæ seminales and bladder were like those of a well-formed male. The testicles were situated in the locality of their primitive formation, and, as before described, in the foetus. They were about half the usual size of a man of that age, and their real testicular structure was so apparent that it did not seem necessary to subject the tissue to a microscopical examination. From the epididymis of each, passed off, as usual, a vas deferens, which, passing along the brim of the pelvis, finally terminated normally in a vesicula seminalis.

Female parts.—The vagina was of the usual size, but at its lower part it was contracted into a small tube, which passed into the urethra between the lobes of the prostate gland. The communication here between the female and male parts was complete and perfect. The vagina was continuous upwardly, with a uterus of normal structure and appearance, and whose size was that of this organ taken from a well-formed female of eighteen years of age. (A specimen was at hand for comparison.) The cavity of this uterus was complete; and from it passed off, on each side, an ordinary Fallopian tube, which terminated in the usual fimbriated extremity. The ovaries were situated in their ordinary locality, and their structure was such as to leave no doubt as to their physiological character, without the need of a microscopical analysis.

This case is so remarkable as to be almost without a parallel in the history of monstrosities. In the well-known work of Isidore St. Hilaire, one or two analogous cases are quoted; but only one of these refers to the human subject.—See *Histoire Générale et Particulière des Anomalies*, &c. ii. p. 164.

This instance is all the more worthy of attention, since true hermaphroditism in the human subject is totally denied by some, and all cases of this nature are referred, as merely apparent, to false hermaphroditism. Such is the opinion held by Bischoff (see *Wagner's Handwörterbuch*, i. p. 918); and Vogel (*Pathological Anatomy*, &c. Philadelphia, 1847, p. 475) thinks that the cases given are in the highest degree questionable, and founded on a false interpretation of the supernumerary parts.

In the present case, the opportunity for so careful an examination of the parts can leave little doubt that the supernumerary parts were not falsely interpreted.

It may be added that the existence of such normal female parts, and which had the function of menstruation, makes it highly probable that this indi-

vidual was susceptible of impregnation. But it is improbable that the testicles ever performed their true function, and so this individual was physiologically only a female, and the mature, normal appearance of the penis was probably due, not to virile vigour, but to a periodical excitement contemporary with the menstrual function.

Tetanus: Recovery. Reported by Dr. S. D. TOWNSEND.—The patient, a female, aged 28, a prostitute of intemperate habits, was breaking ice with a fork, on Saturday, July 31, when the fork penetrated the thumb of the left hand, under the nail. At 9 o'clock A. M., August 1, she was seized with violent spasms, and was seen by Dr. WM. E. TOWNSEND in the evening, who made an incision over the wound, and directed an opiate for her. She was taken to the hospital, where Dr. T. saw her about 9 o'clock P. M. The paroxysms were extremely violent, recurring every ten minutes, at times oftener, and from one to two minutes in duration. During the spasms, the veins of the head and neck were very turgid and prominent; respiration entirely suspended; consciousness not impaired; opisthotonos perfect; pulse not much accelerated. The paroxysms continued with the same frequency until 11 P. M. when they occurred less often, and were not so violent. An attempt was made to get her under the influence of ether, without success. Chloroform was also tried, which seemed to have more influence over her; but they both apparently increased the frequency of the spasms. The warm bath was also used, with no better success. Brandy and laudanum were repeatedly rejected by the stomach. Fowler's solution, which has been reported to have been successful in several cases, could not be retained. At 5 o'clock A. M., Aug. 2, there was a recurrence of the spasms, the patient having six between that time and 11 A. M. At 8 o'clock, she commenced taking 1 gr. of opium every half hour, which was continued until she had taken 8 grains, when she slept. Dr. Parkinan saw her with Dr. Townsend this morning, when it was decided, if the spasms were not relieved at 1 o'clock, to open the trachea to admit air into the lungs during the paroxysms, and the thumb was also again laid open; but at that hour she was much relieved. August 3, there was a recurrence of the spasms, but with less violence; opium was repeated until she had taken 10 grs.; in the evening, 5 grs. of calomel were given, which operated the next morning. August 4, took 3 grs. of opium during the day; had but four spasms; since which she has been entirely free from them.

ART. VI.—*A Case of Cheloidea, with some Remarks on Cheloid Growths.*

By WALDO J. BURNETT, M.D., Boston. (With three figures.)

ON my way home from the South, this last spring, I stopped at Goldsborough, N. C., for a few days. Here I accidentally saw, in the office of Dr. Dewey, of that place, a preserved tumour, which, in size and singularity of appearance, quickly arrested my attention. Its cheloid character immediately occurred to me, and through the polite kindness of Dr. Dewey, the tumour and its complete history were freely given me. Dr. Dewey had kept a full account of the case while under his observation; and by his aid I was able to

obtain other details, so that the history both of the case and the disease is pretty complete and satisfactory. The history of the case proper is succinctly as follows:—

The patient is a negro boy, now 16 years of age. When three or four years of age, a small boil-like tumour appeared on the left side of the neck, just beneath the angle of the ramus of the lower jaw. This was lanced, and discharged a drachm or two of pus. But in the lips of the opening there appeared, as it healed, a fleshy growth, which continued to increase, and in three years was of the size of an orange. It was then removed; it reappeared, however, in the lips of the wound, and in three years more had attained the size of six inches in length, and one and a half inch in breadth—a nodulated tumour, lying just below the under jaw, but now reaching a little round to the right side of the neck. It was again removed; but was reproduced; and after a little more than three years had reached a size larger than ever.

The patient then (November, 1849) came under the care of Dr. Dewey, of Goldsborough. The following is a description of the tumour at the time. It was situated in front of the neck, extending over half its circumference, and completely filling the space between the infra-maxillary bone and the sternum and clavicle; it was about twelve inches in length and four inches in thickness, presenting the appearance of a large Bologna sausage attached about the neck. It was lobulated, unyielding on pressure, and cold to the touch. It was attached by its whole length; but this attachment was narrow, averaging less than one inch in breadth.

It was removed, and found to have only a cutaneous base; but the hemorrhage was much more than had been anticipated, all the cutaneous vessels appearing enlarged, and six to eight needing the ligature. (Fig. 1.)¹ The skin retracted so much that the lips of the wound could not be brought together, and the parts were kept open for the application of caustic. After slow cicatrization of the wound, the cicatrix immediately enlarged, and the tumour was reproduced, in spite of all treatment. In April, 1853, it was as large as before; and those who had known its past history advising a discontinuance of all farther surgical treatment, the boy was taken to a neighbouring city for operation. I saw the patient several months after this last operation; the disease was rapidly reappearing, not only in the lips of the wound, but also in all the stitches, and very forcibly reminded me of a large South American centipede. (Fig. 2.)²

Such is the history of the case proper.

The history of the disease in connection with this particular case is even more remarkable.

The father of the patient, and the father's two brothers, had the same kind of a tumour in nearly the same locality; the father had also several of them on other parts of the body; four children of this father, beside the one belonging to the case, had also this affection, and situated for the most part in the same cervical locality. One of these children, a boy of fourteen years, who was on a neighbouring plantation, I went to see for the sake of verifica-

¹ The drawing was kindly made for me by my friend, Dr. W. T. Parker, formerly of South Boston.

² This rude drawing is given simply to represent the multiple reappearance of the disease in the wound.

tion. I found that he had a flabbish oval tumour, of the size of half an orange, situated on the left side of the neck, in the very locality where the original

Fig. 1.

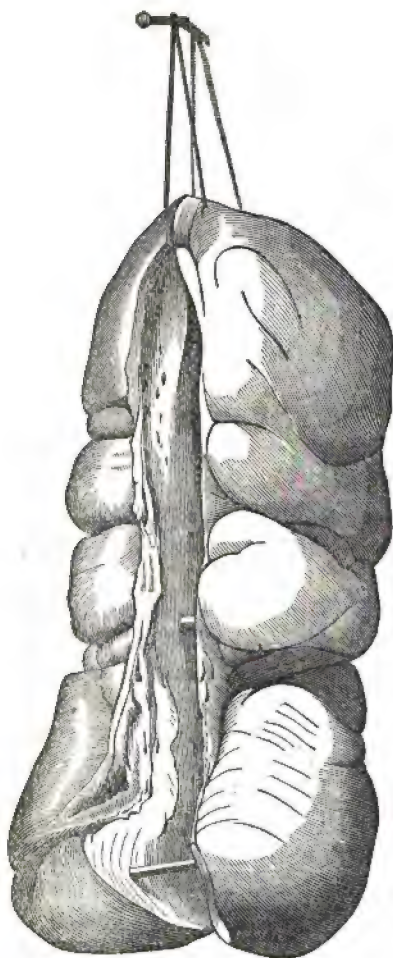


Fig. 1. Tumour after removal.

Fig. 2.

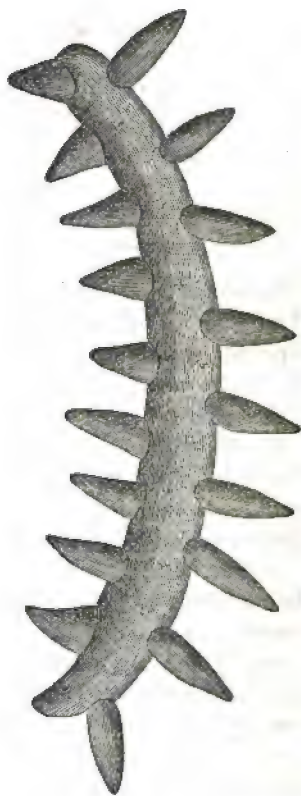


Fig. 2. Represents tumour reappearing on neck in each stitch.

tumour of the case reported appeared. It was evidently the same kind of a growth as the one in question. In a word, this morbid formation appeared to be a kind of family characteristic from the paternal side.

The anatomical structure of the tumour in question, removed by Dr. Dewey, was remarkable for its simple, innocent character. It was dense and slightly yielding, and its feel, as well as the aspect of its incised surfaces, was that of a simple fibrous structure. I subjected it, moreover, to a most critical mi-

microscopical examination, taking bits from different parts of the tumour. Its intimate composition was exclusively the fibres of a fibro-cellular tissue, which had involved in the growth and expansion of the disease a greater or less amount of epithelium—this last appearing in the form of broken cells and scales. (Fig. 3.)

Fig. 3.

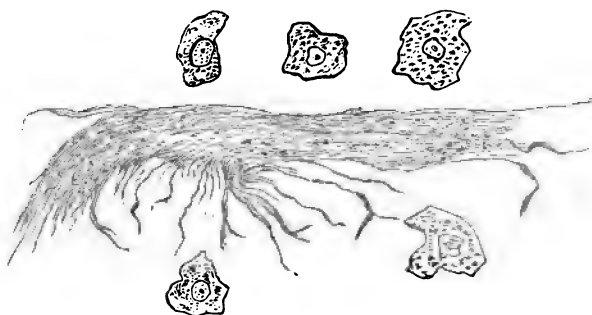


Fig. 3. Represents microscopic structure, fibro-cellular tissue, and old epithelial cells.

In an anatomical point of view, then, this disease is only a fibrous epigenesis of the skin. Its physiological relations, however, seem far more complex and important, and as the opportunity is a good one, I propose to refer briefly to the obscure and imperfectly understood disease which has received the name of cheloides.

All the writers on cutaneous diseases, who have made special mention of this disease, speak of it as of very rare occurrence, none of them individually having seen but a few cases. It is perhaps on this account that their expressed opinions correspond to the character of the cases they have observed.

Alibert¹ describes it as distinctly a cancerous disease, and divides it into the two forms of *genuina* and *spuria*; he mentions one case in which it was hereditary, and the figure he has given corresponds to the well-known form as usually observed. The tumours which he examined were composed of a hard, whitish fibrous tissue, like the glandular body of the mamma. Judging from this, it might be inferred that his cases were only those of fibrous growths of structurally an innocent nature. Other dermatologists, such as Green, Cazenave, Wilson, &c., notice it more or less particularly; but their descriptions are vague and unsatisfactory as far as regards the real nature of the affection, no careful structural analysis having been made. Rokitsky² classes it among the epigeneses of fibroid tissue, from its identity of structure. He says: "Some constitutional disorder lies at the root of every case; but the nature of it is unknown; that it is cancerous, is altogether problematical." Warren³ divides this affection into three varieties, which are dependent on

¹ Alibert, *Malad. de la Peau*, Paris, 1833, p. 209. Pl. XXXVI-VII.

² Rokitsky, *Path. Anatomy*, Syd. Soc. Ed. iv. p. 92.

³ Warren, *Surg. Observ. on Tumours*, Boston, 1848, p. 41. Pl. III. p. 48, Pl. IV.

their form and general appearance; for he adduces no evidence that they are not all structurally identical. He mentions two cases of his third or malignant variety, in which the disease was reproduced after removal. Under the new term *Eilodes*, he describes a disease which he regards as of allied nature. The example on which this new generic form is based, is a case in which a tumour, resembling a coil of sausage, is situated on the neck of a negress, as he has represented in a well-known plate. This singular tumour was removed, but finally compromised life. The whole history of the case is like that of many cases of cheloidea; in fact, in many respects not unlike that of the one I have described; there is, moreover, no reason for supposing that it was structurally peculiar, and as tumours must be classified according to their historical and histological relations, rather than from their mere form and shape, it would appear to me that Dr. Warren's *Eilodes* is only a peculiar form of cheloidea. At a meeting of the Royal Medical and Chirurgical Society of London, in January, 1849, Wilson¹ gave the details of three cases, and Mr. Chalk gave an account of another. At the discussion which followed these papers, the opinions of several well-known surgeons were elicited. Mr. Charles Hawkins thought the disease not a rare one, he having seen three cases. B. Phillips spoke of two, and had noticed similar growths which succeeded the use of tartar-emetic ointment on the chest. Mr. Lloyd mentioned two cases also. It was here mentioned that the French authors have described only twenty-four cases. But in this discussion there was nothing important elicited as to the histological and other characteristics of the disease; by some, it was thought to be generally malignant, but this referred rather to its obstinacy of continual return than to its real cancerous nature.

At a late meeting of the Boston Society for Medical Improvement, at which the case I have above described, together with the specimen, were presented, there ensued no little discussion upon this disease. Dr. Jackson remarked upon the comparative rarity of this affection, he having seen in the pathological museums of Europe which he had visited only a very few specimens. Dr. Warren and others mentioned cases which they had observed, and the disease was regarded as much more common in this country than in Europe, according to the statements of foreign writers.

I will not burden the subject by detailed references to special cases which are scattered through the journals; but distinction being made between certain cutaneous hypertrophies which follow upon laceration and lesions of the skin (such as the use of certain ointments, and of the lash with negroes), in subjects having some constitutional disorder, and the other form which appears spontaneously and generally at certain localities—this distinction being made, it is evident, from the imperfect *résumé* we have just made, that true cheloidea is one of the most remarkable morbid formations with which we are acquainted. So far as the few histological investigations which have yet

¹ Wilson, Lond. Med. Gaz. xliii. 1849, p. 165.

been made would warrant an opinion, there is evidently nothing cancerous in its structure; it is a fibroid epigenesis, as simple and innocent in structure as any common dermic hypertrophy. Nevertheless, it sustains relations to the constitution and economy which are as constant and deep as those of the most malignant cancerous diseases. It is not only hereditary, but, as the case I have related shows, tends to reappear in the offspring in exactly the same locality, and when removed, "root and branch," the wound produced by the operation only serves as the bed for its wider and larger growth.

In cancer, we have a morbid product, which is wholly heterogeneous to the constituents of the healthy economy; the same is true of tubercle. The relations of both these diseases, which have no analogues, are constitutional, and therefore hereditary. We have seen the relations of cheloidea to be precisely the same in a physiological point of view; indeed, this affection, when carefully studied, seems to introduce a new feature in our views of physiological pathology. There can now be no doubt about the distinct and peculiar histological components of cancer; but if there are other growths, which are simply homologous, and are structurally of as innocent a character as the most ordinary cutaneous formations, we may well be led to ask if the practical malignancy of a morbid growth does not lie deeper than the field of exploration of chemistry or microscopy.

ART. VII.—*Cases of Lead Poisoning.* By E. A. ANDERSON, A. M., M. D., of Wilmington, N. C. Formerly Resident-Physician and Surgeon to the Philadelphia Hospital.

CASE I.—Henry Schemmerhorn, house-painter, aged thirty-seven years; habits very dissipated and intemperate; has been engaged in painting for the last fifteen years. On the night of the 27th of March, 1853, I was called in great haste, and on approaching his house heard the cries fully a square off of the patient. Found him labouring under constant and severe griping pains in the abdomen, attended with but little tenderness and no fullness; frequent eructations and vomiting; violent spasms; obstinate costiveness; great gloom and dejection of mind; pulse very slightly if at all disturbed; skin cool; tongue moist and natural, and very little if any thirst. Abdomen in the umbilical region retracted to the spine; pain not increased by pressure. Countenance haggard; eyes wild and rolling. Intervals of comparative ease are followed by such intense paroxysms of pain that the patient loses all self-control; shrieks violently, and cries like a child. Judging from Schemmerhorn's intemperate habits, I at first suspected him of suffering from the abuse of spirituous liquors, especially as there was some inability to extend the hand, or open the fingers from want of power or control over the muscles of the wrist. In addition, his gait is weak and tottering from laxity of the knee and ankle-joints, when he is ordered to stand up during the respite from pain. Close cross-examination, however, of himself and wife,

elicited the fact that he had drank nothing for upwards of two weeks or more, being confined for that time to the house with symptoms, more or less severe, of colic, which gradually increased in frequency and severity, notwithstanding the use of various domestic remedies. Upon opening the mouth of Schemmerhorn, to examine his tongue, I was struck with a dark blue line around the teeth and gums both of the upper and lower jaw, so characteristic of lead-poisoning, and laid down by Tanquerel as an unerring sign of this affection. Taken in connection with the occupation of the patient, this strong diagnostic mark shows the nature of the case in the clearest possible manner, leaving no doubt either of its character or treatment. The indications here are very evident—first, to allay the severe spasmodic and neuralgic pains; secondly, to bring on free action of the intestinal tube; and thirdly, to remove the lead by which the whole system is thus thoroughly impregnated. Ordered one-fourth of a grain of sulphate of morphia in solution every quarter of an hour until the patient is relieved. *R.* Morphiae sulphas grs. ij; aqua ℥i. Take a teaspoonful every quarter of an hour. After taking eight doses, or two grains of morphia, the pains and spasms ceased; an enema of salt and water was thrown up the rectum, and repeated three times before an operation was induced. The patient was then allowed to rest, and, as it was near midnight, I took leave, ordering ol. ricini ℥i; tinct. opii gtt. xx, to be taken early in the morning.

March 28, 1853. Upon visiting patient this morning, found the oil had operated finely, and that he is comparatively free from pain, suffering only from great prostration and soreness of the bowels. Ordered to fulfil the third indication, viz. the removal of the lead from the system. *R.* Potassæ hydriod. ℥ij and ℥ij; aquæ ℥iv. Take a teaspoonful four times a day, and continue as long as the gums around the teeth indicate any decided blue tinge; if the pain returns, take, in addition, one-eighth of a grain of morphia in each dose until it subsides.

Schemmerhorn rapidly improved under this course of treatment, with but occasional returns of colic—this was kept down by the morphia, aided by large doses of castor-oil to keep the bowels open, carefully abstaining from painting for one or two weeks. At the end of this period, necessity compelled a return to his trade, and the blue line around his gums having, in a great degree, faded away, he was allowed to resume the occupation of house-painter. He is ordered the use daily at dinner of the sulphuric acid lemonade. This is given according to the directions of the French writers, who suppose that an insoluble sulphate of lead is thus formed, decomposing the carbonate and preventing farther attacks. Since then Schemmerhorn has had no recurrence of lead colic, and, up to this time, enjoys his usual health.

CASE II.—Mercury Davis, for the last twenty years house-painter, aged forty-two years. Patient complains of obstinate constipation, frequent vomiting, severe paroxysms of pain, great weakness in the legs, particularly in the knee-joints, drooping of the wrists, great languor and lassitude, gloom of mind, eyes slightly jaundiced, pulse nearly normal, and skin of natural temperature. Upon opening his mouth, a distinct dark blue line is perceived on the gums, and around the incisor teeth of both upper and lower jaws. Has been subject for some time back to constipation and abdominal pains, with frequent attacks of nausea and vomiting. His symptoms not being so severe as Schemmerhorn's, in case No. 1, I did not think it necessary to press the opiates so rapidly, having more time to manage this attack. Ordered mass hydrarg. grs. x; sulphate of morphia grs. $\frac{1}{4}$ every third hour until the pain is relieved or bowels moved.

April 6, 1853. Evening.—Found patient comparatively relieved of pain; vomiting ceased, but no operation of bowels; has taken four pills or one grain of morphia and forty of blue mass. Ordered *ol. ricini* $\mathfrak{z}\text{i}$ to be taken at once, and, if the bowels are not moved by the following morning, give a purgative enema; suspend pills of morphia and blue mass.

8th. Upon visiting Davis, found that the oil had produced one large operation of hard clay-coloured scybala, and that he was quite comfortable except feeling great soreness in the bowels upon motion. Ordered five grains of hydriodate of potassa and one-eighth of a grain of sulphate of morphia four times a day as long as any soreness of the bowels remains.

9th. Patient quite comfortable; no operation since morning of 8th. Ordered *magnesiae sulphas* $\mathfrak{z}\text{i}$, *statim sumendus*, which operated well on evening of same day.

10th. Patient quite comfortable; bluish line fading somewhat around the gums. Continue hydriodate of potassa grs. v four times a day as long as the discoloration remains, with occasional doses of morphia in case of recurrence of pain, and sulphate of magnesia to open the bowels if they should be again locked up. Under this treatment, Mercury entirely regained the use of his arms and legs, and the characteristic blue line around his gums was rapidly fading, when I lost sight of this case, strictly ordering him to change his occupation. Necessity, however, compelled him to resume it, and he has suffered from several similar attacks, each relieved with greater difficulty until he is now, at the present time, suffering from general anasarca, ascites, and breaking down of the entire constitution; health utterly ruined by repeated attacks of lead-disease.

CASE III.—George Williams, aged thirty-four years, engineer of Point Peter Steam Saw-mill; habits good and temperate; previous general health good. This patient was taken a week before I was called in, and treated by Mr. Keith, the proprietor of the mill, for what he supposed to be an attack of ordinary simple colic. Injections, *ol. ricini*, sulphate of magnesia, and *tinct. opii*, with blisters to the abdomen were ineffectually employed. He was then sent over the river to me, and, on visiting him, found he was complaining of constant vomiting, frequent and severe paroxysms of pain in the umbilical region, a deep-settled gloominess of mind, great despondency and obstinate costiveness, having had no operation by the bowels for more than a week. Having been very much engaged, I had, in a measure, forgotten the cases of the two painters above, and as I had no suspicion of the presence of lead in George's attack, was not struck with its great similarity to Schemmerhorn's and Mercury's. I supposed it to be a case of simple colonitis, or obstruction, either mechanical or spasmodic, of the intestinal tube.

May 1. Patient was ordered *tinctura hyosciami*, *vin. sem. colchici*, $\mathfrak{a}\mathfrak{a}$ $\mathfrak{z}\text{i}$. Take a teaspoonful every hour until pain is relieved or bowels moved. Warm fomentations to the abdomen, and injections at sundown.

2d. Medicines had operated well; patient much easier and more composed; is able to answer questions in a satisfactory and collected manner, and can give a full account of his attack and previous state of health, which he could not do on former visits. Found upon inquiry that he was not subject to attacks of colic previous to being employed at Point Peter Steam Saw-mill; but that for the last few weeks he has been suffering from occasional cramps, costiveness, and abdominal pains, with great weakness of the wrists, ankle, and knee-joints, since taking charge of the engine at Point Peter Mill. Suspend *colchicum* and take tincture of *hyoscyamus* $\mathfrak{z}\text{j}$ four times a day. Moderate exercise in the open air.

4th. George has now returned to his post, and complains only of great debility and weakness of lower extremities and wrist-joints—despondency of mind still remains. Ordered tinct. ferri muriat. as a general tonic, gtt. xx ter die. He gradually improved, and, for the present, I lost sight of this case, still entertaining no suspicion of lead-colic, *which we shall see in the sequel was clearly the nature of the disease.*

CASE IV.—David Grant, aged thirty-six years, fireman at Point Peter Mill. This patient came to me on the same day that George was discharged, viz. May 4, 1853. He was then suffering under constant vomiting, severe abdominal pains, obstinate costiveness, languid look and wo-begone countenance. Upon examining his mouth, I was struck with the characteristic blue line around the gums of the upper and lower incisor teeth, more strongly marked than in any case I have ever seen. It presented the appearance as if the entire gums had been painted with lead-coloured paint, very thickly laid on with a camel-hair brush. This was an unequivocal case of lead-colic, as we shall see most conclusively at the close of this article. To avoid useless repetition, I will here state that David was treated by injections, blue mass, and morphia, until the pain was relieved and bowels moved, followed by five-grain doses of iodide of potassa four times a day until the blue line of gums had disappeared. It is gratifying to see how rapidly this takes place under the use of the hydriodate of potassa, and I do not consider any patient safe until the natural healthy colour of the gums returns. In about a week, this patient resumed his work, and up to this time has had no return of his disease.

CASE V.—10th. While attending David, I was hastily summoned again to George Williams, the engineer, who had a second attack similar to the first (as in Case III.), but more violent in degree. He presented all the symptoms of poisoning by lead, and on examining his gums, the dark blue shading was almost as strongly marked as in David's case.

George was treated by injections, calomel and opium in large doses, followed by ol. ricini and hydriodate of potassa. Strict orders were also given, both to him and to David, to use no water but what they carried over in jugs themselves, from the Wilmington side of the river, until I had an opportunity of analyzing the water furnished by the proprietors to their operatives. George recovered in a week and has had no return of his complaint, although his case and David's were the two most violent I met with at Point Peter Mill.

CASE VI.—May 12, 1853. Samuel Meares, labourer at Point Peter Mill, came to my office on the 12th of May, 1853, with a very bad contused wound of the second and third phalanges of the forefinger of the left hand, caused by being caught between a heavy stick of timber and the flow of the mill-slide. While dressing his finger, he complained of severe abdominal pains, frequent vomiting, and obstinate costiveness. His gums presented the bluish line around the teeth very strongly marked, with the other assemblage of symptoms usual in lead-poisoning. This case proved a very severe one, but eventually yielded to the treatment made use of as above. Ordered to drink no water but what was procured by himself.

CASE VII.—May 13, 1853. Collins Gause, aged forty years, slide hand or out-door labourer at Point Peter Mill, was taken with all the usual assemblage of symptoms marking poisoning by lead. Upon examining his gums, Tanquerel's blue line was very strongly defined. Treated as above, with a similar successful result.

CASE VIII.—May 14, 1853. Henry —, labourer at Point Peter Mill, aged thirty-five years. This case was a much slighter one than any of the pre-

ceding. It presented the usual symptoms of lead-poisoning with the bluish discoloration of the gums witnessed in the others. It yielded readily to ol. ricini and tinct. opii., followed by iodide of potassa and morphia.

CASE IX.—*May 14, 1853.* Jacob Howard, aged twenty-five years, slide hand at Point Peter Steam Saw-mill. This was a very severe case with the blue deposit on the gums strongly marked, and all the other symptoms of lead-poisoning. It required one-fourth of a grain of sulphate of morphia and ten grains of mass hydrarg. every hour, for six hours, before relief was experienced. Cathartics of sulphate of magnesia, and injections to unlock the bowels, with hydriodate of potassa to remove the lead-deposit, completed the general treatment. It terminated like the others, successfully.

CASE X.—*May 15, 1853.* Mary —, cook to the labourers of the mill. Attack slight, with a very distinct blue tinge around the gums. It yielded to five grains of blue mass and a quarter of a grain of sulphate of morphia every third hour, followed by cathartics of sulphate of magnesia.

CASE XI.—*May 20, 1853.* Mr. Spooner, superintendent of the saws at Point Peter Steam Saw-mill, a man of very correct and temperate habits. He has been residing at the mill for the last six months or more. Came to consult me for constant abdominal pains, obstinate costiveness, nausea and vomiting. Upon examining his gums, the blue line was distinctly visible around his teeth. He was treated as above with a similar successful result.

CASE XII.—*May 26, 1853.* Jim Howard, labourer on the slide at Point Peter Mill. This patient came under treatment for a severe cold and intermittent fever, but complained, in addition, of nausea, constipation, and pains in the epigastric region. Tanquerel's blue line is very distinctly marked on his gums. His primary disease yielded to cough mixture and the sulphate of quinia, and the colica rachialgia to anodynes, opiates, and cathartics. This case was a mild one, and is only introduced to show how very extensively this complaint spread among a body of some twenty labourers, involving fully one-half of the entire force, and, for a time, almost suspending the operations at this mill, which is among the largest in the whole Southern country.

Mr. Groves, the general superintendent of the mill, and Mr. Keith, the proprietor, had both frequently complained of constipation and abdominal pains for some time previously, without suspecting the cause, and had experienced more or less relief by the use of various domestic remedies, such as pill hydrarg., paregoric, ol. ricini, &c. Upon examining their gums, a distinct trace of lead was visible. Living, as they do, on the Wilmington side of the river, and remaining on the Point only during business hours, they drank less water than the other operatives, and, of course, were but slightly affected. They have all enjoyed much better health since they have discontinued the use of the water formerly used at this establishment.

The Cape Fear River, at the town of Wilmington, N. C., divides into two branches called respectively the North-west and North-eastern Rivers. The long narrow point formed by these two rivers is known by the name of Point Peter, and is composed entirely of alluvial soil, being a mere marsh, elevated just above high-water mark, and is occasionally covered by the freshets of these two rivers. On the verge of Point Peter, which is here some 200 or

250 feet wide, is situated the Steam Saw-mill of Messrs. Nelson and Keith. On the western side of the north-east river, directly opposite to the mill, is the depot and steamboat wharf of the great Northern and Southern Railroad, which connects the waters of the Chesapeake Bay at Norfolk, Va., and of the Cape Fear at Wilmington, N. C., or the great route between New York City and Charleston, S. C. The sand-bluff here rises forty feet or more above the river, and as the railroad pursues for the first part of its course a direction nearly east, or at right angles to the river before making its great curve to the north, it bisects or splits in two this sand-bluff or elevated table-land. Along the line of this deep excavation, several springs of pure water are opened and collected into one reservoir, from which it is carried through a five-inch cast-iron pipe to a large cistern some five hundred feet from the river-bank at an elevation of about twenty feet from its surface. This water is perfectly pure, being free from any trace of lime, saline, or mineral substances, and is exactly in the condition laid down by Christison as most exposed to the risk of dangerous impregnation from lead—for the more pure the water, the greater the risk—since the saline and earthy waters deposit or line the inside of the lead-tubing with an insoluble crust or coating, which pure water fails to do; but takes up and holds in solution the poisonous particles of lead, ready to act with its deleterious properties upon those who, unfortunately, use it through ignorance of this chemical law.

During the fall of 1852, the workmen at Point Peter Mill suffered much from repeated attacks of dysentery, supposed to be produced by drinking the river-water. At this season of the year, the Cape Fear is very low, leaving its banks uncovered, and a very large extent of swamp and boggy marshes, filled partially with stagnant pools slowly running into the river, which, consequently, brings down past the mill-site much decayed vegetable matter and slime in solution. Fresh spring-water is carried across the river in casks for the use of the operatives, but, becoming warm, is not generally used—the temptation to drink the river-water, which is much cooler, overcoming the dictates of prudence.

The proprietors of the mill, hence, were induced to carry the pure spring-water from the reservoir above-named on the sand-bluff opposite to Point Peter, across the river to the mill, and, unfortunately, made use of lead-pipe for this purpose. The spring-water is conducted from the reservoir on the side of the sand-bluff or hill through a three-inch lead-pipe some five hundred feet to the margin of the river. Here it is taken by another lead-pipe, one-inch bore, which dips down, following and resting upon the bottom of the river over to the Point; this pipe is fifteen hundred feet long, making, with the large tube, *two thousand* feet in all, which conducts it into a large cistern on the wharf of Point Peter. This water has been used very freely by all the operatives at the mill.

For the first three or four months, with the exception of occasional neuralgic pains, simulating colic, general languor, and malaise, no prominent symp-

toms of lead-affections occurred. This, however, is not at all surprising, if we consider that, in the first place, the majority of patients do not suffer from lead-colic for a number of years, since lead is a cumulative poison, the introduction of very minute portions of which into the system ultimately produces effects that may not show themselves at first. Secondly, that as the winter of 1852-53 followed shortly after the introduction of the lead-pipe, a far smaller quantity of water was made use of than in the heats of summer, when the thermometer often rises to 120° in the sun. And we find that the most severe cases occurred precisely among those workmen, who, being most exposed to the heat of the engine and furnaces, drank very freely of this water. That the next most severe class of cases were among the out-door or slide hands, who were exposed to the full action of a southern sun. The labourers who worked in the shade under cover of the mill, were less heated, used comparatively but little water, consequently imbibed but a minute portion of lead, and of course suffered least of any.

The two superintendents of the mill, viz. Groves and Spooner, who were not expected to perform manual labour, of course suffered less in proportion; for they were not heated by excessive exercise or labour in the sun, and drank, necessarily, but little water.

Mr. Keith, the proprietor, resides constantly on the Wilmington side of the river, and used the lead-water at only occasional intervals, and was of course but slightly affected.

The above ten cases, occurring in one locality, characterized by a great similarity of symptoms; presenting, as they did, severe abdominal pains, constant vomiting, obstinate constipation, no fever, great gloominess of mind, languid look and wo-begone countenance, with the *blue line around the gums and teeth*, the most unerring symptom of all, could leave no doubt of the character of the complaint, especially if we consider the great length of pipe, viz. two thousand feet, through which the water is carried. They all yielded to the same general course of treatment which we have found in our experience to succeed best, viz. : iodide of potassa, morphia, injections, colchicum, hyoscyamus, mass hydrarg., blisters, opium, ol. ricini, and calomel. In a word, allay the pain with narcotics and anodynes; aided, if necessary, by blisters, followed up by enemata and cathartics, and the free subsequent use of the iodides.

But one link was wanting in this chain of evidence, viz. the presence of lead in this water, and this we were enabled to detect most satisfactorily. Two vessels were filled, one with perfectly pure water and the other with water furnished us by Mr. Keith, from Point Peter cistern. Iodide of potassa being placed in the one, the colour was unaltered; but in the other, an orange-coloured tint was at once perceived, showing the formation of iodide of lead by precipitation. A second set of vessels were similarly filled; through both a stream of sulphuretted hydrogen gas was passed; no action on the pure water: but in the

suspected liquid, a copious dark brown precipitate was thrown down, exhibiting sulphuret of lead, which collected in perceptible portions at the bottom of the glass.

Since Mr. Keith has discontinued the use of this water, all cases of colic have disappeared among the workmen; for we see that ten out of twenty workmen were attacked in rapid succession, almost suspending the operations of the mill during the most active and profitable season of the year. Water is now carried over in casks, and no loss of labour is experienced.

The proprietors of Point Peter Mill have concluded to abandon the use of the lead-pipe, and either use the gutta percha in its place, or sink an artesian well. From the earliest use of the lead-pipe up to the present time, its poisonous properties have been prominently brought before the public; but such is the economy, flexibility, and convenience of this style of pipe, that but little impression against its use has hitherto been made. In the hope that these statements may lead to investigation, and arouse to a sense of danger, thus constantly incurred, I have reported these cases to your widely extended journal, if you deem them of sufficient interest to merit an insertion.

ART. VIII.—*Crystals of Urate of Potash in Urine.* By BENJAMIN S. SHAW, M. D., of Boston. (With wood-cuts.)

ON examining an urinary deposit, I found crystals of urate of potash. This substance rarely has a crystalline form in urine, generally being deposited amorphous. In this instance, these crystals were in the form of flat needles, with well-marked terminal faces, transparent and colourless. Many of them were collected in groups around a common centre, forming rosettes. When dissolved in nitric acid, and treated with ammonia, they gave the usual indications of uric acid, viz., a purple colour. Dissolved in nitric acid and treated with chloride of platinum for potash, yellowish octohedra of chloride of platinum and potash, not polarizing light, were formed.

The deposit was flocculent, and of a light-pink colour; no other abnormal ingredient was found in the urine, except a small quantity of the ammonia-magnesian phosphate, and a very few torulæ, which were probably of accidental occurrence.

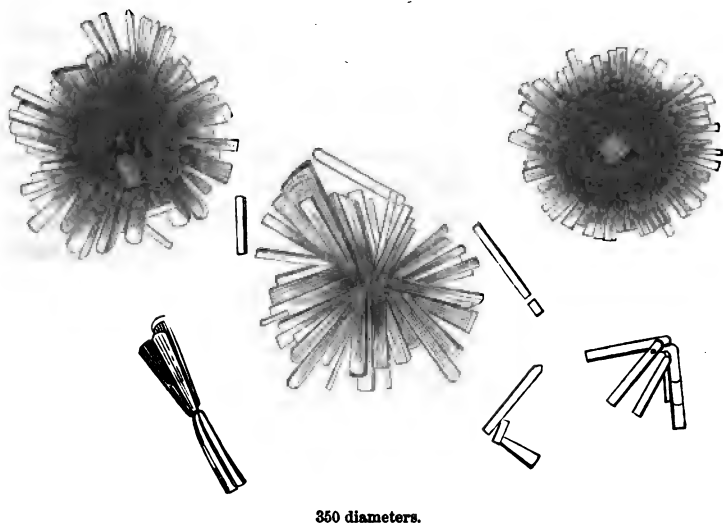
The patient from whom the urine came was a young man who had complained of general debility and loss of appetite, without any well-marked symptoms of any disease, for several weeks.

This form of urate of potash can be artificially obtained by the union of uric acid and potash in large quantities, and crystallization from hot water.

I am not aware that it has ever been seen in urine. Indeed, any form of urate of potash is rare.

The accompanying figures represent these crystals magnified 350 diameters.

Fig. 1.



ART. IX.—*A peculiar form of Uric Acid in Urine.* By BENJAMIN S. SHAW, M. D., of Boston. (With wood-cuts.)

ON examining a deposit in urine, I found a peculiar form of uric acid. They were large ovoid disks, thin and very transparent, of a pinkish tinge when in a drop of urine, and yellowish when dry. They refracted light strongly, were seen to be disks when revolving in a fluid, and measured on an average 0.028 of a millimetre in their long diameter, and 0.021 of a millimetre in their short diameter. They polarized light beautifully, showing a series of concentric circles, making it probable that their structure is zeolitic, although no trace of needles or any internal structure could be discovered. In some the disks were not perfect, both extremities being wanting. When treated with boiling water they dissolved, and on cooling were precipitated as crystals of uric acid of common and well-known forms, polarizing light, and presenting all the characters of common uric acid.

The deposit was of a brown (light chocolate) colour, heavy, the urine acid, and no other abnormal ingredient seen in it. The patient, a woman, æt. 35, had had scarlet fever, followed immediately by rheumatism, and afterwards

by erysipelas. The urine was remarkably abundant during the whole of the diseases.

The accompanying figures represent these forms of uric acid uncoloured; the group to the right, the appearance when seen with polarized light. Magnified 350 diameters.

Fig. 1.



350 diameters.

ART. X.—*On Dumb-bell forms in Urine.* By JOHN T. PLUMMER, M. D.,
of Richmond, Indiana. (With wood-cuts.)

It has not been many years since Dr. Bird wrote that "in a very few cases the oxalate (of lime) is met with in very remarkable crystals, shaped like dumb-bells, or rather like two kidneys, with their concavities opposed, and sometimes so closely approximating as to appear circular, the surface being finely striated. These crystals are produced, in all probability, by a prolific arrangement of minute acicular crystals. I have not met with many cases in which this zeolitic was present."

The chemical character of these dumb-bell forms appears to have been satisfactorily settled in the mind of Dr. Bird; and I do not know that subsequent observers had ever suspected that other constituents of the urine might assume the same forms, until Dr. Frick, of Baltimore, communicated to this journal in 1850, the result of his examinations of uric acid crystals, which, by partial disintegration, he found were sometimes reduced to forms approximating to those of dumb-bells. He likewise says: "The ovals usually described as separate figures from the dumb-bell, are, in fact, identical with this."

I have recently met with two-knobbed crystals in the urine of a man crip-

pled with chronic rheumatism, which correspond in form with every variety of dumb-bell oxalate of lime that I have seen figured or described, and yet are neither lithic acid, nor a salt of lime.

The urine in question was passed in small quantity, was loaded with lithate of ammonia, was very acid, and had a specific gravity of 1025. It was not albuminous. I filtered off the lithate, and allowed a few drops of the filtrate to evaporate spontaneously on a slip of glass. On subjecting the dried specimen to a considerable magnifying power, I was surprised to find the whole field of the microscope strewed over with dumb-bell-shaped bodies, as represented in the annexed figure. These bodies were transparent and colourless. It will be perceived that they bear a close resemblance to each other.

In subsequent evaporations of the same urine, I obtained not only the same forms, but several modifications of them; the principal of which are shown in the following range of figures. The first, second, third, sixth, seventh, and eighth, were not uncommon forms. The fourth appeared

Fig. 1.

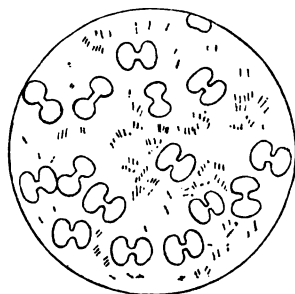
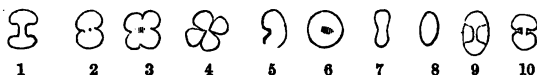


Fig. 2.



clearly to be formed by the intersection of two dumb-bells at their contracted portions. The fifth or kidney form was sometimes varied so as to resemble different kinds of seeds with conspicuous hilums. The oval outline of the ninth figure was only seen by varying the focus. No striæ were observable in any of these figures; the parts within the outlines appearing as pellucid as water. A modification of the tenth form obtruded itself upon the imagination as a couple of mushrooms with the lower surfaces facing each other.

About a week after the foregoing urine was examined, I received another specimen of that secretion from the same person. It contained no apparent lithate of ammonia; and, although it had just been passed, it was perfectly neutral. In this sample I could detect no dumb-bell forms.

I afterwards subjected the urine of a healthy man to a like examination, and found an abundance of these interesting figures in it, mostly resembling those in the above circle. Many of them, however, had the double-mushroom shape. In a favourable light, delicate striæ were obvious.

It now became an important question to determine the chemical composition of these bodies. In order to cause them to roll about, that I might

ascertain their thickness and lateral form, I applied some alcohol (sp. gr. 810), and found the extremities had a lenticular shape; and that the dumb-bells were quite soluble in that liquid, but were momentarily rendered more distinct by it. Thus, they agreed with the dumb-bell oxalate of lime only in form; and on the addition of acetic acid they speedily disappeared; they could not, therefore, be an oxalate of lime. Was it then any of the normal salts of the urine that had assumed this mode of crystallization? Sulphate of soda, sulphate of potash, chloride of sodium, chloride of ammonium, phosphate of soda, of lime, &c., are all soluble in acetic acid. Urea, another solid constituent of urine, is also soluble in this acid. But I could not by any process of crystallization convert the urea into dumb-bells; nor was I any more successful in a like attempt with the preceding salts. Uric acid is not soluble in acetic acid; and, besides, the figures of altered crystals of that acid, as given by Dr. Frick, could not be readily mistaken for those now in question.

As oxalate of lime was satisfactorily proved to take on this dumb-bell form, was it not probable that my dumb-bells were an oxalate of some other base?

I prepared such a salt of soda, potash, lime, ammonia, and magnesia, and allowed the solutions to evaporate spontaneously on slips of glass. But on repeated trials I could deduce nothing satisfactory from the experiments, with the remarkable exception of that with the oxalate of soda. The process of crystallization in this case was particularly interesting. I was enabled to see under the microscope all that I could desire. Indeed, I was fortunate enough to witness the whole process of transformation of the prismatic crystals into the dumb-bell forms. In the first place, the oblong crystal appeared; the internal portion being still liquid. Then a bubble of extricated air made its appearance at each extremity of the crystal. These globules of air gradually augmented in size, at the same time that there was a transient solution of a portion of the shaft of the crystal, and transfer of the solid material to the exterior of the globules. The air bubbles finally, in this manner, approached each other in the shaft of the crystal, until they rushed together.

The following figures will, perhaps, sufficiently illustrate this series of changes.

Fig. 3.



Many of these crystals assumed the form of a pair of door-knobs attached by their shaft. Most of the knobs in all the dumb-bell forms were perfectly spherical. Among these dumb-bells (which formed themselves into a ring around the margin of the evaporating solution, and, as they appeared under the microscope, reminded one of the druidical arrangement of rocks) were

extremely delicate crystal filaments, shooting into the interior of the drying spot, and bearing a remarkable resemblance to the finest fibres of glass. I at first suspected this was some impurity in my preparation of the oxalate; but during my microscopic examination, I was gratified to perceive some of the filaments spontaneously dissolving, and, by a reaggregation of the saline particles, forming minute dumb-bells in the whole line of those filaments.

In numerous cases the spherical extremities of these soda dumb-bells appeared to have been ruptured; and a hemisphere of lengthened crystals to have radiated from a common centre; but the striated appearance was not by any means so delicate as that of the urinary salt.

These experiments were, of course, by no means conclusive. They only served to show that oxalate of soda tended to assume the dumb-bell form. Was the urinary concretion, then, an oxalate of soda? I carefully tested urine containing these dumb-bell forms; but could detect no trace of oxalic acid in it. There was, indeed, a delicate cloud formed, on the addition of the salts of lime, which slowly subsided like the mucous encorema, and had very much its appearance; this precipitate disappeared also like oxalate of lime in nitric acid. I evaporated some of the urine over a steam-bath, and again tested a strong solution of it, but no indication of an oxalate was manifest.

In order to exclude all possible sources of fallacy, I was desirous of making an application of the reagents directly to these minute bodies as they lay upon the slips of glass. To detach and collect them in their existing forms seemed to be out of the question; could I succeed in making microscopic chemistry answer my inquiries? To shut out all needless research, I adopted this process of negation; these forms could not be urea; for nitric acid was distinctly seen to form snaky cords wherever it ran over the urea, and quickly to dissolve the dumb-bells. They were not phosphate of lime, nor phosphate of magnesia; for they were readily soluble in water. Silicic acid they could not be, for obvious reasons. Chloride of ammonium so invariably crystallizes on a surface, in its peculiar manner, that the supposition of their being that salt could hardly be indulged. It *might*, however, be a phosphate, a sulphate, or a chloride.

I found on adding solution of nitrate of silver under the microscope, that in the midst of the copious precipitate, the dumb-bells in question disappeared as by solution. But this was not conclusive evidence of their not being a chloride; for, on proceeding with chloride of sodium in the same manner, I could see clearly many of the minute crystals *dissolve* in the fluid, which was doubtless the solvent water of the nitrate. I therefore thoroughly dried the urine on the glass, and swept over the surface a saturated solution of the nitrate. By this means, as the crystals adhered strongly to the glass, I succeeded in curdling nearly all the surrounding matter, without interfering materially with them. When the chloride was swept off, the crystals were

subjected anew to the same reagent without an immediate amorphous precipitate ensuing. I was satisfied, therefore, that the salt was not a chloride.

Was it a sulphate? I prepared another surface of the dumb-bells, placed the glass under the microscope, and by means of a delicate pipette, which I constructed for such purposes, I applied solution of chloride of barium. A more satisfactory result I could not have anticipated. Just where the dumb-bells lay, there decomposition and precipitation took place, so clearly in those crystals, and nowhere else, as to leave little else to be determined. The precipitate was washed, and, on trial, was found to be insoluble in the mineral acids.

This salt, then, which, as I proved by many more experiments than I have referred to above, so constantly tended to the dumb-bell form, is unquestionably a *sulphate*, and probably one of the normal constituents of the urine.

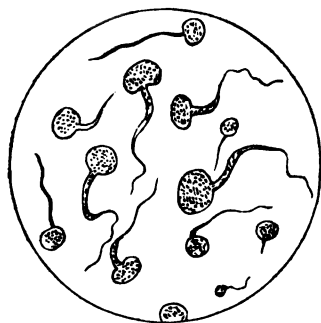
I ought, perhaps, to remark that, in accordance with this determination, I always found it to be by far the most abundant salt on the glass. I sometimes procured a field of other forms of the most interesting character. Imitations of oak leaves, various other foliaceous resemblances, mathematically exact squares, pentagons, hexagons, octagons, and modifications of these, stellæ, beautiful rosettes, and numerous indescribable figures, all intermixed with the dumb-bells, and all arranged on the glass at nearly equal distances from each other, presented a very enlivening view. I wish to be understood that these were all different forms of apparently the same sulphate or sulphates; for I repeatedly converted the dumb-bells, by solution and recrystallization, into these figures; and also exclusively and perhaps more frequently into an exceedingly elongated rhomb.

After I had written nearly thus far, I incidentally met with the following remarks of Dr. H. Bence Jones, of England: "The sulphates of the urine would never be seen but for chemical tests." . . . "The sulphates may be immensely increased, and yet the eye may know nothing of the excess."

. . . And again: "Not the slightest microscopic appearance or form of a crystal, whence it could be conjectured that sulphates were present in excess; yet the greatest increase may occur, or the greatest diminution take place; whilst, by mere ocular inspection, you know nothing at all about it. The sulphates in the urine never show themselves; they require to be made to appear; chemical tests are necessary to be certain of their presence." These observations, though rather loosely made, probably only mean that the sulphates, when in *solution*, cannot be detected by the eye; for, from my comparatively recent experience even, I should feel a moral certainty in being able to say that a given specimen of urine contained more or less of the sulphates, by ocular inspection, without the aid of "chemical tests;" not doubting that these would confirm my judgment.

During my inquiries I met with a curious phenomena, which it may be well to mention. In several specimens of urine submitted to the microscope,

Fig. 4.



the sulphate crystallized in the form of nearly perfect circular areas, and ellipses, and miniature limpet shells (patella of conchologists). On applying the chloride of barium to these figures, they were instantly converted into the forms represented in Fig. 4. I only once succeeded in witnessing the process of transformation; so nearly was it an instantaneous change. It appeared to me that the application of the chloride caused the primary bodies to burst at a single point; and, then, the liquid

contents being shot out, were precipitated by the reagent.

RICHMOND, WAYNE Co., IA.

ART. XI.—*On Extractives of the Blood in the Urine; and on the Presence of Iron in the same Excretion.* By JNO. T. PLUMMER, M. D.

IN one of the Lettsomian lectures of Dr. G. O. Rees, which appeared in 1851, in the *Medical Gazette*, the attention of the profession was first called to the fact that, in disease, the extractive matters of the blood were often found passing off by the urine, unaccompanied by albumen. The lecture has been repeatedly copied; and, so far as I have observed, copied without comment. Indeed, the subject seems to have attracted but little notice.

It was not until the reappearance of the lecture in *Ranking's Abstract* for 1852, that I became acquainted with the doctor's discovery; and it is only within a month or two past that I have devoted any time to the inquiry.

By a process of reasoning, which it is not necessary here to repeat, the doctor conceived it probable that the sanguineous extractives of salts might be effused from the blood into the urine, without or with albumen; and it occurred to him that, as one of the extractives of the blood was precipitable by tincture of galls, and the urinary extractives scarcely affected by it, he had in this reagent an efficient means of determining the question before him. He was not disappointed.

The result of his investigation he sums up as follows:—

1. That whenever albumen was present in quantity in the urine, it was always accompanied by the extractives of the blood in large proportion.
2. That the cases in which the extractives of the blood were in the urine in large proportion were generally those marked by debility.
3. That cases of anasarca, with disease of the heart, and unconnected with

albuminuria, also showed the extractives of the blood to be excreted by the urine in quantity.

4. That cases of chlorotic anemia and hysteria gave copious precipitates.

5. That the albumen in albuminuria and the blood extractives decrease in quantity together.

6. That in cases of anemia, the proportion of blood extractives observed in the urine diminished as cure was proceeding under the use of ferruginous medicines.

He conceives that notwithstanding the comparatively limited number of cases experimented on, he can safely assert that he has "proved beyond a doubt that in certain diseased conditions an important drain upon the blood is going on, of which we have been totally ignorant up to the present time."

I give below a summary of the few experiments I have made:—

1. The urine evacuated thirty minutes after dinner, by a man forty-five years of age, of rheumatic diathesis, but at the time in usual health, was tested with tincture of tannic acid; and it yielded *no precipitate*.

2. A few days afterward, at 10 o'clock A. M., the urine of the same person, apparently in the same condition, furnished a *considerable cloud* on the addition of the tannin. At 8 o'clock A. M., of the same day, the excretion yielded *no precipitate* to the reagent.

3. Some days after this, this man's urine, passed three or four hours after dinner, he being in good health, gave a *very marked precipitate* to the tincture.

4. After he rode for some hours in the cool air till 9 o'clock at night, and went to bed without his usual beverage (coffee), he was affected with nervous headache during the night. *No trace* of precipitate was found in his morning urine (*urina sanguinis*) on the addition of the tincture.

5. L. T., a married female, aged about twenty-six years, complained of some difficulty in urinating; no other apparent derangement of health; her only child nine months old. Her urine was small in quantity, pale almost as water, and loaded to a very turbid state with epithelial scales. This excretion after filtration yielded a *copious white precipitate*.

6. E. C., a maid of thirty years of age, with narrow chest and impaired health. Urine pale coloured, and charged with lithate of ammonia. Filtered, boiled, and filtered again; and applied the tannin. A *copious white precipitate* appeared.

7. A female, aged about twenty-eight years, married, has a very slender frame, and is decidedly consumptive. Has been taking the codliver oil for two weeks with acknowledged benefit to her cough. Urine amber coloured, depositing epithelial scales. After due preparation of the urine, the tincture of tannin was applied; but *no precipitate* followed for hours; the precipitate should be immediate. Two days after, her urine, evacuated before breakfast, was again tested, but with the same result, *no precipitate*. Had the oil any agency in suspending the escape of the extractives?

8. R. J., a man, forty-five years old, for years crippled with rheumatism, and now incapable of walking except very cautiously by the aid of crutches. Pulse nearly natural; appetite impaired; emaciated and feeble; urine small in quantity, and charged with lithate of ammonia; yielded a *moderate precipitate* to tannic acid. Prescribed iodide of potassium and colchicum; and tested the urine one week afterward; it was entirely neutral, free from lithate of ammonia, and furnished *no precipitate* to tannin.

9. A large-framed man, complained of aching in left lumbar region. Passes from three to six ounces of urine at a time, and frequently. Some specimens abounding in urate of ammonia; other specimens precipitating none. Tannin threw down *precipitates* in very obvious quantities. The patient was a hard-working farmer.

10. M., a middle-aged married female, of nervous temperament. Discharges of urine frequent, and sometimes copious. The fluid clouded with mucus, and pale, and rapidly becoming offensive. The patient's health generally bad. The urine, after filtering, boiling, and filtering again, yielded a *copious white precipitate*.

In all these cases due care was taken to test for albumen; and, if present, to remove it before adding the tannin.

11. Not long before I read Dr. Rees's remarks on this subject, I had a case of anemia, the most strikingly developed I ever saw. The patient, a young married woman, lived on the banks of the river in a narrow valley, often suffering from intermittent fever. Finally, the healthy hue of the skin began to disappear, and rapidly vanished; leaving the surface of a startling whiteness. In a few days afterward, the patient died. A better case for the application of Dr. Rees's views could not perhaps have fallen to my lot; but those views were not then known to me. I had, however, examined the urine for other purposes, a few days before her death, and still retained a portion of a spirit extract of it.

This extract was redissolved in distilled water and tested by tannin. A *very copious precipitate* followed. The test-tube with its contents was set aside. In the course of the next day, I observed, to my surprise, that the precipitate had assumed an evident purplish hue. On examining it daily afterwards, I found it became steadily darker, till it finally acquired a deep-blue colour. All these shades so closely resembled the stains produced by driving a nail into a new oak board, that I could not resist the conclusion that the tannic acid had found iron in the deposit, and had combined with it.

I accordingly poured off the supernatant liquid, washed the precipitate and dried it. It was then heated on a platinum spoon, to destroy the tannin and other organic matter present; a drop of dilute sulphuric acid added; heat again applied, just sufficient to evaporate the surplus fluid; and then a drop of distilled water, and afterwards the ferrocyanide of potassium in solution, furnished unmistakable evidence of the presence of *iron*.

Whence did this metal originate? I re-examined my reagents and found

them pure. There was a possibility of some salt of iron having accidentally got into the Berlin capsule in which the spirit extract had been evaporated. But aside from other reasons which rendered it highly improbable that the iron was adventitiously present, I subsequently examined fresh portions of the urine of some of the worst of the foregoing cases, and obtained the same white, and afterward purple discoloured precipitate; which, by the same process, yielded the same conclusive proof of the presence of iron.

Had the patient in whose urine I first detected this metal been using chalybeate medicines at the time, I should have strongly suspected that as the source of the iron. But there remains no doubt with me that, in at least certain morbid states of the system, iron is eliminated by the kidneys from the blood. I have not been able to obtain the same results from normal urine; and, indeed, from the absence of any reference, even as a trace, to the existence of iron in healthy urine, in the numerous published analyses by Becquerel, Marchand, Berzelius, Lehman, Christison, Simon, and others, it would appear that the metal is not present, at least in appreciable quantities. Dumeril, however, in his analysis in 1826, found in 1,000 parts of the mixed urine of several healthy persons, 31.8 parts solid residue, of which there was .18, or, if I calculate rightly, less than $\frac{1}{500}$ of one per cent. of phosphate of lime, sulphate of lime, and peroxide of iron. Von Bibra found a trace of iron in the urine of oxen and pigs; Boussingault and Van Setten found none in that of pigs; Vogel, a "little peroxide of iron and silica" in that of the rhinoceros; Chevreul discovered a trace of peroxide of iron in the urine of a camel; and Von Bibra, a trace in the urine of a horse.

Simon admits that the quantity of iron in the human urine is very minute, and can only be detected in the ash. Becquerel, however, "has never been able to discover iron in the incinerated residue of normal urine." This, as I have already stated, agrees with my own experience. And if, as we know, iron taken into the stomach in excess, passes off by the kidneys, we may be able to reconcile the contradictory results of different chemists, by supposing, in many cases, the use of iron vessels in culinary operations, especially in the preparation of acid fruits and herbs, as the pie plant, apples, tomatoes, sour dock, &c., would furnish that excess, which would be eliminated by the renal organs. This surplus of iron would of course appear in the most healthy urine; and the next day or two, under a different dietetic regimen, no iron would be detected in that fluid.

At the same time I do not see the necessity of resorting to this supposition in order to account for the opposite results of analysis. The food of the domesticated and wild animals, herbivorous and carnivorous, contains iron; and as this metal is required in but small quantities daily for the supply of the system, and is by no means rapidly assimilated, the least redundancy would be apt to appear in the urine of the healthiest animals; or, at least, in some of the excretions. In view of such and such like considerations, I think it is probable that iron is not a proper or uniform constituent of urine, but a

mere contingency; and, as such, its existence in the urine is perfectly consistent both with a state of health and of disease.

Donné, who states, in opposition to Becquerel, that normal urine always contains a certain quantity of iron, says that it disappears during chlorosis, and does not again make its appearance until after the use of chalybeate medicines. If the "ghostly paleness" of my chlorotic patient was due to the abstraction of iron from the blood in dissolved hemato-globulin or other constituent of that fluid, I would ask, through what more likely channel could it have passed away than the renal emunctories? During such a transit, the iron must of course exist in the urine; and I have no doubt will hereafter be found there, in this condition of the system, in accordance with the results of such an examination, already mentioned in this paper.

ART. XII.—*Obstetrical Cases.* BY WILLIAM RANKIN, M. D., of Shippensburg, Cumberland County, Pa.

CASE I. *Arm and Shoulder Presentation, in which the Breech was brought down spontaneously.*—Sept. 10, 1830. I was called to see Mrs. B—— (in consultation with my friends, Drs. Lane and Hunter), who was in labour, with an arm and shoulder presenting. On arriving, I learned that the waters had discharged four days ago, and that the arm and shoulder of the right side had been in the passages for about twenty-four hours, and were now projecting from the vagina, much swollen and discoloured; the body of the child occupying the cavity of the pelvis in a bent or curved position. The woman was very much exhausted by the severity of her sufferings, and the pains had now entirely ceased except a little aching in her back.

We stepped out to consult as to what had best be done with the case, under the present circumstances, but had been absent only a short time before a messenger was sent to inform us the pains had returned, and our presence was requested forthwith. On making an examination on our return, I found that some change in the position of the body of the child had taken place since the last examination, and that now a reasonable hope might be entertained that spontaneous delivery by the breech would be effected. Acting on this expectation, during each successive pain, I assisted the expulsive efforts of the uterus, by using my fingers, hooked into the groin of the child, and soon found that the hips were gradually advancing, so that the delivery of a putrid child was in a short time accomplished.

The womb afterwards contracted well, so that the placenta was soon delivered in safety; and the woman had a favourable recovery.

CASE II. *Hand and Cord Presentation altered to the Head.*—June 23, 1833. I was requested to visit Mrs. T——, aged about thirty years, in labour at full term of her seventh child. I found her with feeble, inefficient pains, os uteri but slightly dilated, and pulse pretty full. I took away blood, from her arm, sufficient to make a decided impression on her system. After two or three hours, the pains became somewhat more active, and the os uteri more

relaxed, and seemed to be gradually dilating. Soon a sharp pain came on, by which the membranes were ruptured and the waters discharged; when, on examination, I found a hand and the funis presenting at the os uteri. Thinking that the parts were now sufficiently dilatable to admit my hand into the uterus, for the purpose of turning, which I expected would be necessary, and supposing that now was the best time for that object, before the waters would be more completely drained off; therefore, after oiling my hand and arm, I introduced my fingers into the lower part of the uterus, and found the head of the child so favourably situated, that I could so alter its position that it might be brought to the mouth of the uterus, and the hand at least, if not the cord also, kept back. I therefore attempted this manœuvre, and succeeded in dislodging the head from the right side of the pelvis and placing it in a situation more favourable for its entrance into its cavity; keeping, at the same time, the hand and cord back behind it. The next few pains brought the head sufficiently down to clear itself of the hand; and, fortunately, the cord gave no farther annoyance; and a healthy living child was born in about an hour. No farther difficulty was experienced with the case.

CASE III. A Case of Placenta Prævia, accompanied with Rupture of the Uterus.—Dec. 7, 1835. About 10 o'clock last night I was requested to visit Mrs. C——, aged about forty years, who was in labour at full term.

On my arrival, I discovered that she had had, for two or more days, slight pains in her back, accompanied with uterine hemorrhage, to which latter she had been subject for the last two or three months, at times, and, according to her own account, for the last two weeks almost constantly.

When the premonitory symptoms of labour came on, which was early on the morning of the sixth, she sent for a neighbour woman, who occasionally officiates as midwife. She remained with her all day, hourly expecting the commencement of real labour; but was disappointed until a short time before I was sent for; when she had a single most violent pain, though not exactly like the pains she had at her other accouchements, during which she felt, she says, as if something had given way within her body. This was followed with great prostration, a disposition to vomit, great tenderness or soreness, as she expressed it, of the abdomen, and general coldness of the surface. Her pulse was now imperceptible, even in the temporal and carotid arteries; her skin bathed with a cold, clammy perspiration, with constant sighing and restlessness.

On hearing a statement of the case, I at once concluded that there must be a placental presentation, and that the present exhausted state of her system was the result of unavoidable hemorrhage, which opinion was confirmed by an examination per vaginam. The os uteri was but slightly dilated, and no part of the body of the child could be reached by the common digital examination. On laying my hand over the uterine region of the abdomen, I plainly discovered what I before suspected, that I had a case of rupture of the uterus, as well as of placenta prævia. The head and an arm could be distinctly felt, as if it were projecting through a rent in the uterus, and pressing against the abdominal parietes, which position prevented me from reaching, per vaginam, by the usual examination, any part of the child. What was now to be done? Were I to attempt turning the child and delivering by the feet, death would, during the operation, inevitably take place. This was evident, from the great prostration already existing, and from the want of tonic contraction of the uterus, which would be needed to close the vessels that would necessarily be ruptured during the operation. I therefore con-

cluded that there was no hope of saving my patient, and that death would, ere long, close the scene, and so expressed my opinion to her friends; but, at the same time, as well to satisfy the family and friends, as to relieve myself from the effects of public censure, which is so common on such occasions, I requested a consultation, which was readily acceded to. Dr. William A. Findley was sent for, and arrived in about two hours; when, after a careful examination, he agreed with me precisely, both with respect to the nature of the case, as well as to its evidently fatal character, and that it would be imprudent to interfere at all in its course by an operation.

She gradually continued to sink until about 8 o'clock A. M., when death terminated her sufferings.

I think there is no reasonable ground to doubt that in this case death was the result of unavoidable hemorrhage, kept up for two or three months, and afterwards, when the rupture of the uterus took place, of a more free discharge of blood into the cavity of the peritoneum, which was shown by the great tumefaction that took place in the abdomen, above the uterus, after this accident, and the discharge from the vagina then ceasing entirely.

CASE IV. *Arm and Shoulder Presentation.*—On the evening of Dec. 21, 1844, I was summoned to visit Mrs. M——, six miles from my house, who had been in labour for two or three days, my friend, Dr. D. Smith, attending. On my arrival, I was informed by the doctor that the waters had been discharged early in the day, and that, about 3 o'clock P. M., the right arm and shoulder came down, which he was unable to return; but it continued to descend still lower. On examination, I found the arm and shoulder quite low down, and considerably swollen; the body of the child being, in a great measure, in the cavity of the pelvis.

On consultation with Dr. S. on our case, we agreed in opinion that it would be impracticable to turn the child and deliver by the feet, and that the only resources left were either to leave the case to nature, trusting that a spontaneous change of position might take place, so as to bring down the breech, or to open the chest, and thereby lessen the size of the child, and then use the crotchet or blunt-hook to assist the expulsive powers of the uterus to bring down the hips. The latter expedient was preferred, as the sufferings of the woman were so great that her delivery by the most speedy method was all-important. I accordingly opened the chest, using my pen-knife as a perforator, then broke down the thoracic and abdominal viscera, removing part of them out of the body, and during the pains, which were powerful, acted on the breech by means of traction with the blunt-hook. In this way we succeeded in bringing down the breech, and in a reasonable time effected the delivery. The placenta came away without any difficulty, the uterus contracting firmly; and in an hour or so the woman was as comfortable as could at all be expected, and her ultimate recovery was effected without any unfavourable symptom.

CASE V. *Arm and Shoulder Presentation.*—August 15, 1845, I was called to attend Mrs. C——, who had symptoms of labour, being, as she supposed, between the seventh and eighth month of her first utero-gestation. The membranes had not ruptured when I made the first examination per vaginam, but were very much distended. The presentation could not be made out, the nearest part of the child being barely within reach of the tip of the finger. I ruptured the membranes and discovered that the left arm and shoulder presented. I immediately informed the lady and her friends

that, from the nature of the presentation, the child could not be born by the unassisted powers of nature, and that it would be necessary to introduce the hand into the uterus, and deliver it by turning; which was accordingly effected, after considerable difficulty, arising from the narrowness of the pelvis, and the rigidity of the external parts of generation. One only of the feet could be taken hold of, owing to the violent contractions of the uterus, excited by the presence of the hand in its cavity. The child was delivered with ease, although of pretty large size; but, during the operation, the funis, which was very small and delicate, was torn off. The whole lower part of the abdominal parietes appeared entirely abnormal, having very much the appearance of a thin placenta adhering closely and firmly to the abdomen, commencing as high up as the umbilicus; but, on close examination, it proved to be the contents of the abdomen, enveloped in a thin transparent membrane, resembling, in some degree, the peritoneum; the natural external integuments being entirely deficient.

The left hip-joint appeared much nearer to the axilla than the right. The placenta was adherent, and required, for its removal, the introduction of the hand into the uterine cavity; the woman, as is usual on such occasions, shouting all the time that she was dying. Her recovery took place speedily, and without any unpleasant symptoms.

CASE VI. *Uterine Hemorrhage.*—May 1, 1852, I visited, in consultation with Dr. D. Smith, Mrs. E. Q——, who was ill from uterine hemorrhage, being between the eighth and ninth months of utero-gestation, with her second child.

The doctor informed me that, several weeks ago, she had considerable hemorrhage, which soon subsided; but returned about a week ago, and continued more or less ever since, though not at any time to an alarming extent, until yesterday, when it became profuse, and this morning was no better, without any signs of labour-pains coming on. I found, on my arrival, that her system was so greatly prostrated that the pulse was imperceptible in the one wrist and very feeble in the other.

The os uteri was dilated to the size of a fifty cent piece, but firm and unyielding. No real labour-pains—there being only, at times, a very distressing aching or soreness low down in the back, and just at this time no great hemorrhage. The placenta was discovered over the os uteri, and detached, on one side, from its connection with the uterus; the greater part of it being attached to the other side. We concluded, in the present state of the case, to use cold applications to the vulva, and exhibit three grains of sugar of lead and half a grain of opium every hour or so, or, *pro re nata*, to endeavour to restrain the bleeding, until a more dilatable state of the os uteri should take place, so as to permit turning, or sufficient pains should come on to bring down the head of the child, which we reasonably expected would arrest the hemorrhage, by pressing the detached portion of placenta firmly against the bleeding vessels; and to assist in effecting this result, we determined to use the *secale cornutum*, as soon as a supply of it should arrive from town, for which a messenger had been dispatched.

After waiting about two hours, our patient appearing greatly exhausted, and the os uteri having become dilated to the size of a dollar, we determined to try if an entrance could be made into the uterus, and turning effected; but, on trial, I found it impracticable to pass my hand through the os uteri, from want of dilatability; I however ruptured the membranes, thinking that by this means contractions of the uterus might be excited, and the head brought

down low enough to press against the bleeding vessels. I now found that by pressing with the points of two fingers against the detached portion of the placenta, and keeping it firmly fixed against that part of the uterus from which it had been separated, I could control the flow of blood pretty effectually; which we continued until the ergot arrived and had taken effect. It was given in doses of ℥i. every half hour, a little brandy and water being given at the same time.

After two or three doses had been given, to our great delight, uterine contractions began to take place, and the head of the child could be felt, during each pain, moving downwards, until at length, it pressed so firmly against the bleeding surface as to supersede the necessity of any longer use of the fingers for that purpose. The pain, subsequently, gradually increased, accompanied with a good deal of gastric disturbance, even to the extent of vomiting; and in about two hours after the exhibition of the first dose of ergot a still child was born. Its death may be attributed, I presume, partly to a prolapsus of the cord, and partly to the hemorrhage, which had nearly exhausted its vital supply from the mother.

By means of friction over the region of the uterus, it contracted so as to admit the delivery of the placenta in a short time. The woman was now exceedingly prostrated; her pulse scarcely perceptible; extremities cold; and vomiting and faintness very alarming. By the application of heat to the extremities, and by constant friction over the abdomen with spirits and water, alternate slight contractions and relaxations were kept up in the uterus, still accompanied with too much hemorrhage.

I introduced the hand into the uterus, hoping that its presence there might produce a more tonic contraction; but without effect. I at length carried up into its cavity a piece of alum, with a string attached to it, after which there was no more hemorrhage of any amount. This, no doubt, was effected by its acting locally, as a styptic to the bleeding surface, near the os uteri, when the contractions of the body of the uterus could not have much effect in closing the bleeding vessels. We now administered brandy and water, and panada with a little brandy and nutmeg, to produce reaction in the apparently waning powers of her system; and to allay irritability, a dose of tinct. of opium at short intervals. Her recovery was gradual, but without any subsequent symptoms sufficient to occasion alarm for her safety, and in about three or four weeks she was about through her house, superintending its concerns.

CASE VII. *Inversion of the Uterus.*—Feb. 5, 1848. After a tedious and severe labour, Mrs. W—— was delivered of her first child; but notwithstanding the most energetic means to produce contraction of the uterus, it remained flaccid for a considerable time.

Ultimately, however, I presume from strong voluntary nismus forcing the abdominal viscera down upon the fundus, or from the weight of a large placenta dragging at the fundus of a relaxed uterus, or both united, an indentation of the fundus uteri took place, followed by a strong contraction of that viscus. When on taking hold of the cord, and making the usual gentle traction, the placenta came down; but adhering to the fundus of the uterus in an inverted state. I immediately detached it and pressed up the fundus uteri, with the hand, until it was restored to its natural situation. During its being inverted, as well as during the operation of reducing it, she suffered severely. No inflammation or other serious difficulty resulted from the accident to retard her timely recovery.

CASE VIII. *Inversion of the Uterus.*—June 22, 1851, I attended Mrs. L—, in labour with her tenth child, which was born in about two hours after my arrival. Soon after, for want of tonic contraction of the uterus, such copious uterine hemorrhage took place that syncope was momentarily expected. Friction on the abdomen and cold applications were at once resorted to, which brought on some little contraction of the uterus. I then took hold of the cord to ascertain if the placenta would come away; but found it impracticable to deliver it, separation from the uterus not having as yet taken place. I therefore desisted from any farther efforts in that way, supposing that there probably existed adhesion of the placenta, as was the case in two or three of her previous accouchements. Thinking it imprudent to wait longer, the hemorrhage being great, I proposed introducing the hand into the womb to effect the separation and delivery of the placenta; but she obstinately refused permission, desiring to defer it a while longer. I then made farther efforts by frictions, and grasping the uterus with the hand, which caused some little uterine contraction, and after a short time a violent uterine contraction took place, attended with the bringing down of the placenta into the vagina; another and another such pain followed in succession, and the placenta was expelled, adhering firmly to the fundus of the inverted uterus. After separating the placenta, by gently insinuating the points of my fingers between it and the uterus, I pressed up the fundus, and with difficulty succeeded in returning it through the os uteri into the body, following it up with the hand until completely restored to its original position.

To allay irritation, I gave her forty drops tinct. opii. After the operation the uterus contracted favourably, and in two or three hours she appeared quite as comfortable as is usual after parturition, and her recovery was speedy and uninterrupted by any bad symptoms.

ART. XIII.—*Case of Cartilaginous Exostosis of the Condyle, Ramus, and Angle of the Lower Jaw, for which Resection with Removal of the Parotid Gland and Zygomatic Arch was successfully performed.* By DANIEL BRAINARD, M. D., Professor of Surgery in Rush Medical College; President of the Illinois State Medical Society, etc.

W. S., æt. 32 years, formerly of good constitution, first perceived, in October, 1850, that the movements of the lower jaw were imperfect. Soon after, he noticed a swelling at the left side of the articulation. It was hard, unattended with pain or discoloration, and increased slowly. In February, 1852, an abscess formed upon the side of the neck, below the angle of the jaw, from which, when opened, a fistulous passage leading to the bone remained. Some months afterwards, another abscess formed in front of the ear, from which pus and saliva were discharged. Another formed upon the zygoma. During the whole of this time, the patient's health was not materially impaired.

He was treated principally with different preparations of iodine, internally and externally.

Present state, Jan. 19, 1853. There is a hard tumour, extending from the temple above below the angle of the jaw, and from the middle of the cheek to the ear. It is very prominent and irregular, and has on its surface three fistulous openings, corresponding to the situation of the abscesses. They were found to converge toward the articulation. The mouth could be but slightly opened, but enough to enable me to perceive that the tumour encroached upon the fauces and pharynx. There is pain most severe at night. When he eats, the saliva flows freely from the middle fistula. His health is good, no sallowness, and only a little emaciation, which dates from about a month.

Operation performed Jan. 27, 1853, with the assistance of Drs. Herrick, Freer, and Morfit, as follows:—

The patient having been placed under the effect of chloroform, a curved incision was made, commencing an inch above the zygoma, carried down in front of the ear over the angle of the jaw, and brought forward as far as the side of the chin. The flap was raised, and the integuments dissected up from the surface of the tumour behind.

The bicuspid tooth was extracted, the tissues detached from the jaw, and the bone divided with a chain-saw.

At this stage of the operation, it was necessary to allow the effects of the chloroform to pass off, as the flow of blood into the mouth and throat rendered it necessary that it should be constantly ejected.

The separation of the tumour below and within was next effected, as far back as the mastoid process, against which it was placed.

An attempt was now made to turn it outwards, but it was still almost immovable, and it was necessary to attack it from above.

The temporal muscle was divided, the zygomatic arch cut away at its anterior and posterior extremities, the masseter muscle divided, and a chisel and mallet used to separate the articulation; but the bones were so confounded together, that a part of the glenoid cavity was cut away. A lever being inserted behind the tumour, strong efforts were made to turn it forward, but without success. It was then attacked from within the pterygoid muscles, which were semicartilaginous, were divided at their attachment to the pterygoid processes. The mass was then raised from its position, and its remaining adhesion separated.

The vessels which gave blood were very numerous. The facial, lingual, external, carotid, and numerous smaller branches, required the ligature.

The ninth pair of nerves, the portio dura, and the dental branch of the lingual were divided.

On examining the wound, it was found to lay bare the cornu of the os hyoides, the mastoid and styloid processes, and the transverse processes of the cervical vertebræ. The internal jugular vein and the internal carotid artery were seen at the bottom of the wound. The temporal fossa was excavated,

the muscles of the tongue and pharynx laid bare. The parotid gland had been partially obliterated by pressure, and no trace of it now remained.

The wound was brought together with stitches, and cold-water dressings applied. A full dose of opium was administered. The operation, which lasted an hour, was well borne.

After treatment, no symptoms requiring especial notice occurred. The ligatures were all removed by the tenth day. The wound had adhered throughout, excepting at the point where the ligatures prevented.

Dec. 5. The patient's health is good. He can sit up and walk about, but requires an anodyne at night, on account of pain.

July 17. There still remains a fistulous opening, leading to the situation of the glenoid cavity, through which a small piece of bone has been discharged. The lower jaw has fallen so much to one side that the patient cannot masticate. He is emaciated, and appears to be suffering from inanition, resulting from insufficient nourishment. He still requires anodynes to procure rest at night. There is no appearance of return of the disease.

On examination of the tumour, the bone seemed greatly enlarged in every sense, the ramus of the jaw and the angle were four times their natural thickness, the condyle partially absorbed and altered in shape. This mass, which had the appearance of bone, and from which the periosteum could readily be separated, was so soft as to be easily transfixd with a sharp instrument. The surrounding tissues were infiltrated with serum, and had an appearance like firm jelly, but, after maceration, presented no appearance of morbid deposit.

CHICAGO, August 1, 1853.

ART. XIV.—*Extensive Laceration and Contusion. Recovery.* By G. S. BRYANT, M. D., of Aberdeen, Mi. Communicated by Prof. C. D. MEIGS.

324 WALNUT STREET, September 10, 1853.

DEAR SIR: The accompanying papers, obligingly sent to me by Dr. G. S. Bryant, of Aberdeen, Miss., relate a surgical incident so extraordinary that I trust you will deem them worthy of a place in your valuable journal.

When I received the first paper, I was so much surprised by finding that a person could recover from such a wound, that I wrote to my correspondent, and requested him to revise his notes of the case, and make sure that no errors had crept into the history of the event; because I wished that, however accurate his views of it might have been, it should not appear in print liable to any doubt or criticism upon the diagnosis: at that time, I had heard nothing of Dr. Sargent's case, related at p. 355 of the present number. Dr. Bryant's

letter, dated August 27, appears to me to make it quite clear that no error of the diagnosis did occur, and I therefore, with entire confidence, and without farther comment, place it in your hands, soliciting for it a place among the medical and surgical facts that interest your numerous readers.

I rest very truly, your obedient servant,

CHAS. D. MEIGS.

Dr. I. HAYS,

Editor of Amer. Journal, &c.

"During my residence in Amherst County, Va., in 1850, I was called, on the 25th of April, at about 3 P. M., to see Phœbe, a slave, æt. 25, black, smooth skin, small stature, and the mother of three healthy children.

"On arrival, learned that, at about 2 P. M., patient had leaped from the height of ten feet, and alighted upon a tobacco-stick, which had been driven firmly in the ground and was concealed by some loose fodder. The stick was four and a half feet long, and one inch square). The vagina was entered without doing much injury to the vulva; the stick passed up the canal, and perforated its walls on the right side of the os uteri, entered the cavity of the abdomen, and passed in an oblique direction upwards, and finally lodged against the twelfth and eleventh ribs of the right side.

"4 P. M. Hemorrhage quite subsided, but at the time of accident it was very profuse from vagina; pulse 120, and very small; extremities cold; countenance anxious; pain in abdomen distressing; nausea and frequent vomiting; mind clear.

"*Treatment.*—R. Tinct. opii ʒj; brandy ʒij. To be given at once, and repeated every hour or two until reaction, or relief was obtained; warm applications to the extremities, and a poultice to the entire abdomen, constituted the principal treatment.

"26th, 4 P. M. Slept during the latter part of last night, and has been sleeping occasionally during the morning, but is not altogether free from pain. Reaction took place about 12 o'clock last night; pulse now 110, quick and hard; abdomen much swollen, hard, and tender to the touch; complains a good deal of the side, about the point where the stick lodged, and the lower region of the liver. The swelling and contusion externally are considerable, and she cannot bear the part to be handled; vulva very much inflamed; passes water with much pain and difficulty.

"Dover's powders, grs. x, at bedtime, to be repeated during the night if necessary; effervescing draught every two hours; continue poultices.

"27th, 10 A. M. Rested pretty well last night; pulse 112, hard; skin dry; abdomen very much distended and painful to touch; eyes very red; has vomited some bilious matter; passes her water still with difficulty; bowels have not been moved since accident. R. Hyd. chlo. mit. grs. vj; rhei, grs. x. Make iv pills; to be given at once, and followed by an enema of soap and water in six or eight hours, if no action is had by this time; ano-

dynes and poultices continued; vulva to be frequently cleansed with Castile soap and warm water.

"28th, 11 A. M. Pulse 100 and softer; has had several bilious discharges; some discharge of pus from vagina; no other material change. R. Blue mass, grs. xvj; Dover's powder, grs. xi. Make into viij pills. One to be given every six hours. Continue effervescing draught, poultices, &c.

"29th, 10 A. M. Abdomen enormously distended, dull on percussion and painful on pressure; bowels have been moved twice, discharges of bilious character; pulse 118, small and quick; rested badly last night; skin dry, tongue coated over with a brown fur. Continue treatment.

"30th, 10 A. M. Had, about 2 o'clock last night, a copious discharge of grumous blood from the bowels, which discharge continued to occur every hour or two until 9 A. M. this morning; could not ascertain the exact quantity, nurse supposed it to be from seven to eight quarts; this is no doubt a too liberal estimate. Abdomen has gone down very much; pulse 130, small and feeble; skin dry and cool; she seems quite exhausted; vaginal discharge continues. Ordered half a grain of sulph. morphia at once; infusion of serpentaria \mathfrak{z} j, to be given at intervals of two hours. Continue pills and poultices, but discontinue draught.

"May 2, 9 A. M. Abdomen much flattened; had two bilious discharges yesterday, free of blood; pulse 112, small and soft; vaginal discharge more profuse; passes her water freely; skin dry; has some appetite. Continue treatment.

"4th, 10 A. M. Has done well since last visit, until last night. Nurse thinks she was alarmed by a conversation which took place in the room upon the subject of death and her probable recovery. After an hour or two she was better, and again expressed her belief that she would get well, never before having any doubt about her recovery. Bowels have been moved once this morning; biliary secretions improving; skin continues dry; pulse 108; appetite better. Continue treatment; is allowed a more nutritious diet.

"6th, 10 A. M. Pulse 108, soft; skin moist; bowels in good condition; appetite good; vaginal discharge diminishing; complains of little else than soreness in the right side.

"Ordered tonics and better diet; mercury discontinued; no appearance whatever of its constitutional effects.

"8th, 12 M. Convalescing. Continue tonics.

"11th, 11 A. M. Convalescing rapidly.

"Recovered fully by the middle of June following."

"ABERDEEN, August 27, 1853.

"DEAR SIR: Yours of the 14th inst. is before me, and I hasten to reply to it. I thank you for the kind suggestion with regard to my article. I see now that the case was reported with too little care, and it occurred in this way: After a thorough investigation of all the circumstances connected with the

accident, I was so fully satisfied of the truth of the statement made by the woman, that I only noted the fact in my case-book at the time. On looking over the book the other day, I turned to the case, and thinking it would be of great interest to you, I copied and forwarded it at once.

"I will now state from memory the account given me by the patient at the time of my first visit, and which was frequently reiterated by her to me afterwards. She said that, on jumping upon what she supposed the loose fodder, she thought her belly was torn open, but found that she was hanging upon something, and that it had entered her body, and was resting against her ribs on the right side. She felt it distinctly with her hand, and in trying to extricate herself, everything turned black, and when she came to her senses, she was lying down with the stick driven in her body. Being alone at the time, she with much difficulty succeeded in getting it out herself, which was followed immediately by a gush of blood, which flowed freely for some minutes.

"On first hearing this account, I doubted the possibility of the extent of the penetration. I had the stick brought to me, and on critical inspection I was satisfied the stick had entered her body eleven and a half or twelve inches; it was thickly besmeared with bloody mucus twelve and a half inches, and its terminus was abrupt and distinct. It was quite clear the stick was not stained by the fluid running down upon it.

"The vagina being perforated; the peritoneal inflammation which followed, and particularly the path of disease extending from the pubis obliquely across the belly to the ribs on the right; the swelling, pain, and soreness in the side; the discharge of blood from the bowels; and the hepatic inflammation; all justified the conclusion, in my opinion, that the account given by the patient is correct.

"Now, doctor, if you have a *doubt* whether the evidence here given is sufficient to satisfy *every mind*, I *wish* you not to publish my paper. I should feel very uncomfortable under criticisms and doubts of its truth by the profession.

"I leave the matter with full confidence in your hands, and beg that you will feel entirely at liberty either to destroy the article or to keep it for your private use, should you see fit.

"I fear I have already troubled you unnecessarily, and will bring this to a close, by assuring you, dear sir, that I am, with the highest regard,

"Yours, most respectfully

G. S. BRYANT."

"DR. C. D. MEigs, Philadelphia."

REVIEWS.

ART. XV.—*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M. D., Lecturer on the Practice of Medicine in the Philadelphia Medical Association; Fellow of the College of Physicians of Philadelphia; Member of the Academy of Natural Sciences of Philadelphia; and of the American Philosophical Society. Second edition, revised and enlarged. Lindsay & Blakiston, 1853: 8vo. pp. 711.

It is with feelings of pleasure that we notice the appearance of another work upon the diseases of children. These works are numerous, it is true, but there are few that can entirely be relied upon. The diseases of infancy and childhood are so obscure, require so much patient investigation, so thorough a knowledge of the organs, both in their healthy and morbid conditions, and of the various modes of detecting the latter, and of the causes which induce them, that we venture to assert that no treatise upon the diseases of children, satisfactory both to the practical and philosophical physician, has been written. Within a few years, Germany, France, England, and the United States have each produced important works upon this subject, those emanating from our own country being certainly not inferior to similar productions of other countries. Among the best of our own, we rank the work of Dr. Meigs, which, throughout, appears to be characterized by a love of truth, and an earnest desire, on the part of the author, to avail himself of every source of information within his reach. The results he has arrived at are based upon much personal observation, he having, as he remarks, carefully noted 1180 cases of disease in children.

The diseases treated of by Dr. Meigs are divided into five classes, viz: Diseases of the Respiratory Organs; of the Digestive Organs; of the Nervous System; Eruptive Fevers; Diseases of the Skin, and Worms in the Alimentary Canal. This arrangement answers well enough for practical purposes, giving precedence to those affections of more frequent occurrence; but does not include all the diseases of children—those of the heart, for instance, which are often met with in practice. The first part of the work is devoted to the clinical examination of children, which will repay an attentive perusal. We propose to do little more than present an abstract of this work.

Spasmodic Laryngitis, or Spasmodic False Croup:—

“This is the disease commonly called in this country croup, or by those who make the distinction between it and pseudo-membranous laryngitis or true croup, spasmodic croup. It is known also by the names of false or pseudo croup. I prefer the term spasmodic laryngitis, because it is expressive of the essential character of the disease. It is the stridulous laryngitis of Guersent and Valleix, the stridulous angina of Bretonneau, the acute asthma of infancy of Miller, and the spasmodic croup of Wickhamann, Michaelis, and Double. It is not the laryngismus stridulus, described by the English authors Ken, Ley, and Marsh, with the name of the thymic, or Kopp’s asthma of the Germans, and spasm of the glottis of the French. It is called by Dr. Wood, in his work on the Practice of Medicine, catarrhal croup.”

Dr. Meigs divides this disease into two forms—the mild and the severe, and believes it to be hereditary in certain families.

The following table of diagnosis is altered by Dr. Meigs, from one given by Rilliet and Barthez:—

MILD SPASMODIC LARYNGITIS.

Begins with coryza, and hoarse cough, or more frequently with a sudden attack of suffocation in the night. Fauces natural, or merely slight redness, as in simple angina.

After the paroxysm, the child seems well; the fever disappears, or is very slight. Voice natural or only slightly hoarse; not whispering.

If the paroxysm returns, it is during the following night, and it is less severe; the hoarseness disappears; the cough becomes loose and catarrhal.

Duration seldom more than three days.

Very rarely fatal.

PSEUDO-MEMBRANOUS LARYNGITIS.

In epidemic form, begins as pseudo-membranous angina. In sporadic form, invasion of slight hoarseness for a day or two. There is fever, increase of the hoarseness, with hoarse, croupal cough; in half the cases, pharyngeal exudation, and a little later, paroxysms of suffocation.

The fever continues; stridulous respiration; prolonged and difficult expiration; cough hoarse and smothered; voice hoarse and whispering.

The dyspnoea and suffocation increase; the voice and cough are smothered or extinguished; stridulous respiration persists.

Duration seldom less than five or six. The hoarseness continues for several weeks.

Fatal in the majority of the cases.

The treatment of this disease is well known. When the dyspnoea is very urgent, or when other means fail to produce emesis, I have found nothing so effectual, says Dr. Meigs, as the powdered alum, in doses of a teaspoonful, mixed with honey or molasses. A simple and good method of treating the paroxysm is that recommended by my father in the paper referred to. It is to direct a small teaspoonful of powdered ipecacuanha to be diffused in a wine-glassful of water, of which mixture doses of a teaspoonful are to be given every ten, fifteen, or twenty minutes, according to the urgency of the symptoms. The following remarks in regard to pseudo-membranous laryngitis, or true croup, we think are judicious:—

“In the study of the treatment, it will be necessary to rely chiefly upon the works that have been published since the distinction between the two forms of croup has been correctly drawn; for it is impossible to place much dependence on the assertions of previous writers, inasmuch as their opinions in regard to the effects of treatment must have been formed from indiscriminate experience in two very opposite maladies. It is only necessary to recollect the enormous difference in the mortality of the two affections to be convinced that the success of any plan of treatment in the one is no fair argument for its probable success in the other. Thus, M. Guersent has seen a hundred cases of spasmodic laryngitis without a single death; while he believes that of ten cases of pseudo-membranous disease, scarcely two can be saved. I have myself attended and kept a record of 89 cases of spasmodic croup, and have seen a considerable number of cases besides, of which I have no notes, without a single death; whilst of 17 cases of true croup that I have met with, 8 proved fatal. The most important objects to be held in view in this treatment are the following: To prevent, if possible, the formation of false membrane; after its production, to cause its dissolution, or render it less coherent; to provoke its expectoration; to prevent its reproduction after it is once expelled; to subdue the inflammatory diathesis which exists, and to allay the painful symptoms.”

In regard to the treatment in croup, Dr. Meigs appears, with the French physicians, to place less value upon bloodletting than most practitioners in

this country, and to rely chiefly upon emetics, of which he gives the preference to alum, and also speaks favourably of the turpeth mineral or subsulphate of mercury. We think, however, that the views of Dr. Condie in this respect are more sound, who says that the practitioner who, in violent cases, repels this important measure, and places his hopes on any other remedy or combination of remedies, will have but little reason to flatter himself upon his success in the management of this disease. Certainly, we should be unwilling to omit the use of the lancet in a well-marked case of membranous croup. Of ten cases, in which the disease began in the larynx, depletives were used by Dr. Meigs, and six recovered. The two cases bled to the largest amount (three times each) recovered. *Emetics*—M. Valleix has demonstrated their importance more fully than any other writer. He states that, of 53 cases of the disease, tartar emetic and ipecacuanha were chiefly relied on in 31, of which 15 were cured; whilst of the 22 others in which they were parsimoniously given, not a single one recovered. He gives the facts in regard to those cases which are highly interesting and important. Thus, of the 31 cases treated with powerful emetics, false membranes were ejected during the efforts of vomiting in 26, and of these 15, or nearly three-fifths recovered. In the 5 others of the 31, on the contrary, no membrane was expelled, but they all terminated fatally. Again, of the 22 cases in which emetics formed but a secondary part of the treatment two ejected false membrane, and of these one recovered; while of the 20 others, in which no false membrane was expelled, not one escaped.

The following is the summary of the treatment of membranous croup, as recommended by Dr. Meigs:—

“My own conclusions in regard to the treatment are, that bloodletting is a valuable remedy, when resorted to in proper cases and at the proper moment. In the form which begins as angina, and which is generally epidemic, it ought to be used with more caution than in that which commences as laryngitis. In the latter form, which is usually sporadic, it ought to be used freely, especially in vigorous and hearty children. I will suggest the following plan of treatment to be pursued in children about or over two years old, when we are called in good time: to take from the arm three or four ounces of blood, once, twice, or three times in two days, according to the strength of the child, and the degree and obstinacy of the fever. In both forms of the disease, emetics, and I would recommend alum in preference to any other, should be given once at least, very often twice, and in violent cases, three or four times in the twenty-four hours, so as to produce vomiting attended with a good deal of effort. To give at the same time from one to two grains of calomel with a quarter or half a grain of Dover's powder, every two hours, taking care not to give a dose for an hour before, nor after the time selected for the exhibition of the emetic. In cases in which there is loud stridulous respiration, heard both in the inspiration and expiration, in which previous treatment has had no effect, and in which there is threatening of speedy death, we may give two grains of calomel every hour, until three or four doses have been taken, and direct the exhibition of an alum emetic, after the last dose, or resort to tracheotomy.”

In regard to tracheotomy, he remarks:—

“For my own part, I am clearly convinced from what I have seen of the operation, from my reflections upon the nature of the disease and operation, and from the results obtained by the French physicians and surgeons, that tracheotomy is, to say the least, entirely justifiable, if not peremptorily indicated, under certain conditions of croup; for I think it has been shown, by citations of the opinions of persons experienced in the operation, and by statements of the results obtained from it in France and this country, that it does really offer some additional means of safety to the patient, after the failure of all proper medical means. That it has saved the lives of some, at least, of the numerous subjects upon whom it has been performed, which would otherwise have been

lost, no reasonable and unprejudiced person can, it appears to me, deny. That some who have been operated upon might have recovered without it, I do not doubt; but the uncertainty as to the absolute necessity of resorting to it in any individual case, is not greater, probably, than that which exists in regard to a great many other surgical operations, and to many medical applications.

"It has also been shown, I think, that the operation is, in itself alone, but slightly dangerous to life, at least when performed by a firm and dexterous hand. This removes, of course, the only very serious objection to it, since if the risk from the incision add but little to the danger of the patient, we may venture a resort to it for its probable chance of good, even though that chance be still one only moderate in degree."

If we decide that tracheotomy is a justifiable operation in croup, it becomes all-important to determine the period of the disease at which we should have recourse to it. For the observations of Dr. Meigs upon this subject, which are full of interest, we refer to the work itself. We pass over the chapter on collapse of the lung, and the observations upon the symptoms and pathology of pneumonia, which are well understood. In regard to the treatment of the latter disease, he remarks:—

"It is a common idea that scarified cups are too powerful to be applied to young children; but this is not the case where they are properly selected. The cups should be much smaller than those used for adults, and the scarification of a size to suit the cups; with these precautions, it will be found that the operation of cupping a child within the year, and still more from the age of a year upwards, is less annoying to the patient, and more expeditious than that of leeching. I would, on this occasion, strongly advise country practitioners, who often complain of the difficulty or impossibility of procuring good leeches, to provide themselves with cups of a size suitable for children, to be used in place of the leeches."

We have long been in the habit of recommending the use of cups in the pneumonia of children, and agree fully with Dr. Meigs, that, under certain circumstances, they are preferable to leeches, and that no reasonable objection can be made to their use. Dr. Meigs is of opinion that the doses of antimony usually advised in the treatment of the pneumonia of children, are much too large. His practice has been, after depletion, to give the remedy in doses of $\frac{1}{30}$ th, $\frac{1}{4}$ th, and even $\frac{1}{6}$ th of a grain every hour; and, even in this quantity, it often produces vomiting, or painful nausea. "A very convenient and satisfactory mode of exhibiting antimony to children, is to give the vinum antimonii combined with sweet spirits of nitre, in the doses of two, three, or four drops of the former, with eight or ten of the latter, repeated every two hours; the proportions of the former to be increased or diminished as the stomach is found to tolerate it. To infants within the year antimony ought to be given, it seems to me, with the greatest caution. Many, at that age, do not tolerate more than from half a drop to two drops of the wine every two hours; of expectorants, the most convenient is the syrup, of which from ten to twenty drops may be given every two hours, at four years of age; from five to ten drops between one and three years; and from one to three drops to infants of two or three months. It is useful to combine sweet spirits of nitre with the syrup in doses to suit the age.

Either after or without the emetic, I have found decided benefit in such cases from the administration of decoction of seneka and spiritus mindereri. For a child two years old, I direct two drachms each of seneka and liquorice root, to be boiled in a pint of water down to twelve ounces, and strained. A teaspoonful of this decoction is to be given every two hours with twenty drops of the spiritus mindereri. Dr. Meigs states that, since the spring of 1845, when he was led to make frequent use of mustard poultices and pediluvia in

the treatment of the bronchitis, and pneumonia of measles, he has rarely employed blisters in the treatment of pneumonia. Two parts of Indian meal, and one of mustard, for young children, and, for those who are older, equal proportions, are to be mixed with some water, and spread thickly like a poultice on a piece of flannel or rag five or six inches square. This is to be covered with fine muslin, linen, or gauze, and applied first over the back, and then the front of the thorax. It may remain from fifteen to forty minutes, or until the child cries or complains, or until the skin is reddened. The mustard foot-baths may be employed at the same time with the poultices. These applications are useful whenever the oppression is very great; and, when resorted to in the evening, they often allay irritability, and dispose the child to sleep. The number of applications to be made in a day, must depend on the urgency of the symptoms. I have employed them from once a day to every two or three hours.

Under the head of Bronchitis, Dr. Meigs remarks:—

“I believe, myself, from what I have seen in this city during the last eleven years, that the most fruitful cause of bronchitis, and also of pneumonia, croup, and angina in young children, is the style of dress almost universally used for young children. The dress is entirely insufficient. It consists usually of a small flannel shirt, cut very low in the neck, scarcely covering the shoulders, and without sleeves; of a flannel petticoat, a muslin petticoat, and an outer dress made in nearly every case of cotton. The dress, like the flannel shirt, is cut low in the neck, is without sleeves, and fits very loosely about the chest, so that not only are the whole neck, the shoulders, and the arms exposed to the air, but, in consequence of the looseness of the dress about the neck, it is fair to say that the upper half of the thorax is also without covering. In the infant, from birth to the age of six or eight months, the dress is made long, a wise provision so far as it goes, but from the time the skirts are shortened, up to the age of four or five years in boys, when happily the time for boys' clothes arrives, and, throughout childhood in girls, the trunk of the body and the arms are dressed, or rather, left undressed, as above described. But, not only are the neck, breast, and arms left bare, but in many children the greater part of the legs are also kept uncovered, or, at least, short stockings, scarcely rising above the ankles, and muslin or sometimes Canton flannel drawers, not reaching, or scarcely reaching to the knees, leave exposed to the air a large proportion of the cutaneous surface of the lower extremities. Now, in this dress, the child passes the day in a house, the sitting-rooms of which are heated usually to 68° or 70°, but in which the entries, and sometimes the parlours, are frequently at a temperature of 60°, 50°, or even lower, as I myself have tested with the thermometer. And not only are the entries and parlours, and indeed all the rooms, saving the one or two in constant use, frequently at the temperature just mentioned, but the air of the nursery itself is often allowed, through the negligence of the servants, and especially early in the morning, to fall to 60° or 58°, or possibly lower still.

“That this style of clothing is not correct, is proved by the simple facts that children, who are dressed nearly the same in summer as in winter, suffer scarcely at all from colds in the summer season, when the thermometer seldom ranges below 76°, and is usually above that point; and also by the fact that adults have been driven, by long and almost forgotten experience, to wear clothing twice or three times as warm as that which they put upon their children. How constantly do we see the strong and fully-developed man comfortably enveloped in a warm long-sleeved flannel shirt, woollen or thick cotton drawers, and cloth pantaloons, vest, and coat, in the same room, and in the same temperature, with the little, often puny, pale, and half-naked child. But it is almost impossible to make people understand that children need as much clothing as themselves. They always insist upon it, that, as the child passes the greater part of the day in the house, it cannot require as much clothing as the adult who is obliged to go out and face the weather, forgetting, or refusing to see, that the former wears less than half, or probably not more than a fourth

as much covering as the latter, and that the adult, when in the house and in the same rooms as the child, finds his one-half or three-fourths warmer clothing not at all superabundant or oppressive.

"I have repeatedly had patients to get well of chronic catarrhal and laryngeal coughs, and to cease to have, as before, frequent recurrences of these disorders, under the simple treatment of a long-sleeved and high-necked merino or flannel shirt, long woollen stockings, and stout Canton flannel drawers coming down below the knees, and that too, after the most patient and assiduous, and sometimes over assiduous, trials of drugs, diet, and confinement to the house, had entirely failed of any permanent good effects. The fact is, that though there are some few children who can bear the dress above described without injury, there are a great many more who, while they wear it, either suffer all winter long from frequently-repeated attacks of cold, in the shape of croup, chronic laryngeal irritation with cough, chronic pharyngitis, bronchitis, acute or chronic, or more rarely pneumonia; or, if they escape these direct effects resulting from the constant and rapid waste of their caloric, they are rendered more pale, thin, and delicate-looking than they would be were their vital forces husbanded by warm clothing, instead of being wasted in the constant struggle to keep up the heat of the uncovered body at the natural point."

Three forms of this disease are described by Dr. Meigs: 1. *Acute bronchitis*, of moderate severity; 2. *Acute suffocative bronchitis*, or catarrhus suffocativus, the congestive catarrhal fever, described by Eberle and by Dr. Joseph Parrish of this city; 3. *Subacute or chronic bronchitis*. Dr. Eberle, however, confounds bronchitis with pneumonia under the titles of catarrh, catarrhal fever, acute bronchitis, and pleuritis. The difference in the character of the dyspnoea in bronchitis and pneumonia, under the head of diagnosis, pointed out by Dr. Gairdner, and confirmed by the observations of Dr. Meigs, are of much practical importance. Of the above number of cases of bronchitis, of which notes were kept by Dr. Meigs, but five proved fatal. We recommend the chapter on bronchitis as worthy of close attention. The treatment throughout is marked by a thorough knowledge of the disease in its various forms, and the most judicious and careful directions for its management.

Pleurisy.—Of this disease notes were kept by Dr. Meigs of sixteen cases. He describes two forms of it, the *acute* and *chronic*. According to Dr. Meigs, pleurisy is a rare disease under five years; after that period, it becomes more frequent. Dr. Baron¹ states that, of 429 autopsies which he made, he found the traces of ancient pleurisy in 141, and 248 times recent pleurisy. The same author observes that, of 90 cases of pleuritic alterations, there were in 15 cases coincidence of peritoneal inflammation; more frequently sanguinolent in 20; effusion within the pericardium, 17 times sanguinolent; in 13 a serous effusion or sero-sanguinolent in the arachnoid, or beneath this membrane, or in the ventricles of the brain; in 3 sanguinolent infiltration in the cutaneous cellular tissue; in 1 a sanguinolent effusion in all the synovial membranes; in 5 a sanguinolent effusion in all the serous membranes. Idiopathic pleurisy is stated by Dr. Meigs to be more frequent in the right side than the left. Dr. Baron says that pleurisy in the right side is more frequent in childhood than double pleurisy, and than that in the left. The latter author met with pleurisy in the right side 177 times; of the left, 102; on both sides, 98.

In regard to the frequency of pleurisy at different ages, the following remarks are made by Dr. Baron, who appears to have had the best opportunity for the study of this disease in children:—

¹ Thèse pour le Doctorat en Médecine, présentée et soutenue le 10 Mars, 1841. Par Ch. Baron, Docteur en Médecine. Interne lauréate (Médaille d'or) des Hôpitaux Civils, Membre de la Société Anatomique et de la Société Médicale d'Observation. De La Pleurisie dans l'Enfance.

Age.—Pleurisy may affect the foetus. Mauriceau cites examples. We owe one to Billard, one to M. Veron, and another to M. Cruveilhier. After birth, this disease becomes more common. In several children observed by Dr. Baron, Sr., it commenced almost with birth. "The different periods constituting childhood do not present an equal disposition to pleurisy; and this explains the contradictions we find in authors in regard to the frequency of pleurisy in childhood, each having observed children of a different age. Thus M. Val-leix, who regards pleurisy as a rare disease in childhood, bases this opinion upon the observations of the newly-born; M. Rilliet and Barthez, with whom, on the contrary, this disease is very frequent, have drawn this conclusion from the examples of children much older."

The following is a table given by Dr. Baron, of pleurisy at different ages:—

Of 1 day	4	From 6 to 7 years	15
From 1 to 5 days	40	" 7 to 8 "	11
" 5 days to 1 month	84	" 8 to 9 "	10
" 1 to 6 months	24	" 9 to 10 "	12
" 6 months to 1 year	12	" 10 to 11 "	9
" 1 to 2 years	15	" 11 to 12 "	16
" 2 to 3 "	46	" 12 to 13 "	10
" 3 to 4 "	30	" 13 to 14 "	3
" 4 to 5 "	21	" 14 to 15 "	9
" 5 to 6 "	10	" 15	6
Pleurisies in children, from 1 day to 1 month			128
" " from 1 month to 1 year			36
" " from 1 year to 15 years			233

He also states that he has found 48 double pleurisies, 71 pleurisies of the right side, 237 of the left, in children from 1 day to 1 month; 9 double pleurisies, 19 pleurisies of the right side, and 6 of the left, in infants from 1 month to 1 year; 84 double pleurisies, 48 pleurisies of the right side, and 30 of the left, in children from 1 to 15 years.

Pleurisy, it is said, observes Dr. Meigs, occurs more frequently in boys than in girls. Of 15 cases, in which he noted the sex, 10 occurred in boys, and 5 in girls.

Dr. Baron enumerates 309 cases of pleurisy in boys, and 204 in girls. I have met with it, he says, more frequently in boys than in girls, so that the number of the first exceeds that of the latter by one-fifth; but the number of male children, considered in general, exceeding that of children of the other sex, it cannot be affirmed that this difference in the frequency of the disease does not depend in a great degree upon this last circumstance. However, as the proportion of births of male children exceeds that of female by one-sixth only, it may be admitted that the condition of sex is not altogether without influence.

It occurs for the most part in delicate children. Inflammation of the pleura is almost always associated, according to Dr. Baron, with that of the lung. I have met with, he also remarks, pleurisy as often in children from 2 to 6 years as in those from 6 to 15 years, a result which does not confirm that obtained by MM. Gerhard and Ruz, inasmuch as these observations show that the pneumonia of children from 2 to 6 years is almost never complicated with pleurisy, whilst this complication is very frequent in children from 6 to 15 years. Pleurisy may be complicated with various diseases, of which pneumonia is the only one noticed by Dr. Meigs. The following are mentioned by Dr. Baron: abscess of the lung, gangrene of the lung, pulmonary apoplexy,

infiltration of the lung, bronchitis, croup. Its coincidence with croup, he has observed three times; and M. Guersent, who has had a large experience, observes that authors have not sufficiently insisted upon the complications of croup with pleuro-pneumonia, which, however, are very frequent. To these complications he adds, laryngitis, pertussis, chronic asthma, coryza, pulmonary tubercles, tubercles of the bronchial glands, abscess of the mediastinum, pericarditis and carditis, phlegmonous inflammation of the parietes of the chest, affections of the digestive organs, gangrene of the mouth, gangrenous and pseudo-membranous angina, muguet, intestinal worms, diseases of the liver, jaundice, peritonitis, Bright's disease, affections of the brain, anasarca, gangrenous affections, measles, scarlatina (this disease is a cause of pleurisy, either immediately or mediately, through Bright's disease, which follows it), small-pox, varioloid, varicella, vaccine, chronic cutaneous affections, scrofulous and rheumatic affections, scurvy, and surgical diseases. According to Dr. Baron, pleurisy has been observed comparatively in the winter months 65 times, in spring 57, in summer 37, in the fall 61. The duration of the disease appears to have varied from 1 day to 15 months. The duration of the disease is shorter in proportion as the child is younger. The average duration in children from 1 day to a month, is $6\frac{1}{2}$ days; in those of a month to two years, of 37 days; in those of 2 years to 15 years, 49 days. The mean duration with boys is $34\frac{1}{2}$ days, according to Dr. Baron; in girls, only $10\frac{1}{2}$ days. This, however, may be the effect of chance. The mean duration, in robust children, is 26 days; in delicate children, 33 days. The mean duration of pleurisies in children, without complications terminating by death, is 24 days; that of pleurisies complicated with pneumonia, 8 days; of pleurisies with coincidence of abdominal affections, 20 days. The mean duration of pleurisies in the tuberculous is 65 days. In regard to the adhesions which result from pleurisy, it is remarked by Dr. Baron, that they might be supposed to be formed after the disease has existed a length of time; but this is not the case. It is not rare to find adhesions to occur after the second day; they are frequent the third and fourth day of the disease. Very little space is devoted by Dr. Meigs to the diagnosis of this affection. The only two diseases which he alludes to as being likely to be confounded with it are pneumonia and hydrothorax.

Dr. Meigs states that chronic pleurisy is generally a serious and not unfrequently a fatal disease. Dr. Baron observes that when pleurisy is prolonged, its prognostic, in general, becomes less grave. Such, at least, is the opinion which has resulted from an analysis of his observations. I am far, however, from asserting, he remarks, that chronic pleurisy is not a dangerous disease. I say, only, that a far greater number of children die from acute pleurisy than chronic. According to Dr. Meigs, acute pleurisy is rarely a fatal disease in healthy subjects. He has employed with success the following prescription after the disappearance of the acute symptoms, and where effusion had taken place:—

R. Potass. iodid. grs. xvi; syr. sarsp. comp., aquæ, āā ʒj. Mix. Dose—a teaspoonful three times a day.

Squill and digitalis may be combined in the following formula:—

R. Acet. scillæ ʒij; tr. digitalis gtt. xxx; aq. fluvial. ʒiv. Mix. A teaspoonful three or four times a day to children ten years old.

The author is of opinion that, in chronic pleurisy, Burgundy pitch-plasters are preferable to blisters. When tonics are required in chronic cases, or after the acute symptoms have subsided in feeble and delicate children, the most suitable are quinia, in the dose of a grain morning and evening, small quantities of very fine port-wine, and the preparations of iron.

We have dwelt longer on this disease than might appear appropriate; but, although frequent in childhood, it is very often overlooked, and should be carefully studied by every physician. We have again and again seen it exist unsuspected even by practitioners of experience, simple as its detection often is. We remember an instance—having been called to make the autopsy—of a boy affected with chronic pleurisy, the effusion having been so great as to push the heart very considerably to the right side; giving rise to great œdema of the lower extremities. A simple inspection of the body was of itself sufficient to determine almost certainly the nature of the affection, the left side of the chest being greatly distended so as to efface the intercostal spaces, with complete dulness on percussion. On thrusting a knife through one of these, a jet of pus revealed at once its true character. This child was supposed to die of disease of the heart.

Dr. Meigs states that, with the exception of alum, carbonate of potash is the most useful remedy with which he is acquainted in whooping-cough. He gives it in the dose of a grain three or four times in the twenty-four hours to children one and two years old, for several weeks at a time, without observing any injurious effects from it. He says that he has found alum to exert a more decided influence in moderating the violence of the disease than any other remedy he has ever made use of. The following is his prescription:—

R. *Aluminis* ℥iiss; syr. *zingib.*, syr. *acac.*, aq. font. āā ʒj. M.

“At the age of two or three months, I have usually given from half a grain to a grain for three times a day, taking care to suspend it for a day or two when it caused immoderate vomiting or purging, and then resuming it in diminished doses. This, or in some instances small doses of paregoric and syrup of *ipecacuanha* constitute almost the only remedies I have made use of in the cases of infants.”

Dr. Condie also states that during the second stage, he has invariably prescribed the alum with the most decided benefit.

We pass over the Diseases of the Mouth, which Dr. Meigs has classed under the following heads, viz: simple, or erythematous stomatitis; follicular stomatitis, or aphthæ; ulcerative, or ulcero-membranous stomatitis; gangrene of the mouth; thrush, or stomatitis with curd-like exudations. The following remarks upon the treatment of thrush, we believe to be founded in truth:—

“*Purgative remedies* are much used in this country in all cases of intestinal disorder. I believe them to be unnecessary, and generally injurious, in thrush, except at the onset, and occasionally through the course of the disease, when we may suppose the bowels to contain accumulations of partially digested aliment, or highly irritating secretions. Under these circumstances, and only then, from half a teaspoonful to a teaspoonful of castor-oil, or a teaspoonful of spiced syrup of *rhubarb*, containing half a drop of laudanum, may be prescribed, and repeated in case the same condition of things should recur. Once the diarrhoea with green watery stools established, I believe all cathartics to be, as a rule, injurious.”

The following is the wash recommended by M. Bouchut in stomatitis:—

R. *Mel rosæ* ʒj; *aluminis* ʒss; aq. *destillat.* ʒss. M.

The best internal remedy in ulcerative stomatitis is chlorate of potash. Dr. Meigs says that, during the last four years, he has seldom found it necessary to employ any other remedy, excepting some mild cathartic dose, where the bowels have been constipated, and a wash of borax or alum in honey of roses, or borax in simple honey. The dose is from two to three grains every four hours for a child three years of age; two, four, or five grains for one of nine or ten years. I have usually prescribed it in the dose of two grains four

times a day in a mixture of syrup of ginger and water for children three or four years old.

The following are also recommended :—

R. Sulph. cupri gr. x; pulv. cinch. opt. ʒij; pulv. g. arab. ʒj; mel. commun. ʒij (Dewees); aq. font. ʒiij. M. The ulcerations to be touched with the solution twice a day, with the point of a camel-hair pencil. Or, sulph. cupri ʒij; pulv. cinchona ʒss; aq. ʒiv. M. (B. Coates.)

R. Mucil. g. acaciæ ʒj; syr. cort. aurant. ʒss; calc. chlorinat ʒj. M. ft. lotio (Bonneau), after the ulcerations have assumed a healthy appearance.

The *Diseases of the Throat* are described under the heads of Simple or Erythematous Pharyngitis; Pseudo-membranous Pharyngitis. These are well worthy of attentive perusal. Dr. Meigs observes that his father has been in the habit of employing with much benefit, in the severe angina of children, whether idiopathic or secondary, a wash made according to the following formula:—

R. Cupri sulphat., quiniæ sulphat., aa gr. vi; aq. destillat. ʒj. M.

This is to be applied in the same way as the warm caustic solution, and I have frequently seen it produce most excellent effects.

Diseases of the Stomach and Intestines.—Dr. Meigs divides them into two classes, viz., those which depend on simple functional derangement, independent of any anatomical alteration cognizable by our senses; and the other, those which depend on evident inflammation or its consequences. The first of the diseases noticed is indigestion; this is treated very fully. The following is the prescription recommended by Dr. Meigs, when there is reason to suspect a disposition to tubercular deposit. In this condition, he has found the cod-liver oil the best remedy he has ever tried:—

R. Ol. jec. aselli ʒss; p. g. acaciæ ʒss; ol. cinnam. gtt. vi; sacch. alb. ʒj; aq. cinnam. ʒiij. M. ft. mixture. Dose—a dessertspoonful three times a day after eating.

The next disease treated of is simple diarrhoea. The therapeutical management of this disease, he observes, should be as simple as possible. The fewer drugs we can succeed with in the gastro-intestinal complaints of infants and children, the better it seems to me. Dr. West recommends very highly, in cases of simple diarrhoea, in which the evacuations, though watery, are fecal, and containing little mucus and no blood, the use of small doses of sulphate of magnesia and tincture of rhubarb. His formula at one year of age is as follows:—

R. Mag. sulphat. ʒj; rhei ʒij; syr. zing. ʒj; aq. cam. ʒix. M. Dose—a teaspoonful.

Diseases of the Stomach and Intestines attended with appreciable anatomical lesions—Gastritis, Enterocolitis.—During the five years, from 1844 to 1848 inclusive, there were 4204 deaths from diseases of the digestive organs in this city; including among these, diarrhoea, dysentery, cholera infantum, inflammation of the stomach and bowels, marasmus, aphthæ, worms, colic, and various other affections of the stomach and bowels. Rilliet and Barthez say, “that, taking into consideration all the cases they observed, including tubercular cases, they find that of every ten children that die, one presents a more or less serious lesion of the large intestine.” The most frequent cause of enterocolitis in infants, according to Dr. Meigs, is improper alimentation, the substitution of a feculent for a healthy milk diet.

“As feculent substances constitute a large portion of the diet of children throughout the civilized world, it is not surprising that the mortality should be so frightful. Children fed wholly on artificial diet from birth rarely escape,

according to my experience, attacks of the disease, which in many prove fatal. I have, on several occasions, seen children recover rapidly from the disease after suffering more or less for weeks, by the suspension of a diet consisting wholly or in too large proportion of farinaceous materials, and the substitution of one composed of milk and cream, prepared with gelatine, and containing a very small quantity of arrowroot, rice, or wheat flour."

The anatomical characters of entero-colitis are carefully given. When the diarrhœa in the disease persists, and it becomes necessary to resort to astringents, Dr. Meigs recommends the following: "R. Ocul. cancor. pulv. ʒi; acaciæ pulv. ʒii; sacch. alb. ʒj; aq. fontis, aq. cinnam. āā ʒiss. A teaspoonful four, five, or six times a day."

M. Bouchut recommends the following prescription of Hufeland's: "R. Ocul. cancor. pulv. grs. x; aq. fœnic. syr. rhei, āā ʒss. Mix. A teaspoonful every hour." He has also used with much advantage, either alone, or with the chalk or crab's eyes mixture, an aromatic syrup of galls, in the dose of from fifteen to forty drops three or four times a day, or, when the discharges are very frequent, every two or three hours. It is prepared according to the following formula: "R. Gall. opt. pulv. ʒss; cinnam. pulv. ʒij; zingib. pulv. ʒss; spts. vin. gall. opt. Oss. Mix. Let the ingredients stand in a warm place for two hours, and then burn off the brandy, holding some lumps of sugar over the flames, and strain through blotting-paper."

MM. Trousseau and Pideaux recommend the internal use of nitrate of silver in chronic diarrhœa of children, occurring during dentition after bismuth, powdered crabs' eyes, and diet have failed to effect a cure. The formula is as follows: "R. Argent. nitrat. gr. ¼th; aq. destillat. ʒij; syr. sarsap. ʒiiss. Mix. To be given in eight or ten doses." At the same time they employ an enema composed of a grain of the nitrate to three ounces of distilled water. It is highly recommended in these cases by Hirsch, of Königsberg. His formula is as follows: "R. Argent. nitrat. crystall. gr. ¼; aq. destillat. ʒii; acaciæ pulv. ʒii; sacch. alb. ʒii. Mix. A teaspoonful of this mixture to be given every two hours, and an enema consisting of a quarter of a grain of the salt, with mucilage and a little opium to be administered."

Dr. Meigs states that he has employed this remedy in the proportion of from half a grain to a grain in a glassful of water, by injection, morning and evening for several days, with very decided benefit in those cases of diarrhœa following summer complaint in which the stools were frequent, mucous, sometimes streaked with blood, and accompanied by tenesmus. The syrup of nitrate of iron may also be given in doses of two or three drops three times a day, in sweetened water, at the age of one or two years. This is an excellent remedy in the chronic diarrhœa of children. Hope's camphor mixture may also be given in the dose of from five to fifteen drops, three or four times a day in water.

Cholera Infantum.—The pathology of this disease, we believe, the author has concisely and correctly given in the following words:—

"For my own part, I am disposed to believe that cholera infantum is a disease of the mucous membrane of the alimentary canal, which, beginning with morbid development of the mucous follicular crypts independent of evident inflammation, occasions full supersecretions from these organs, and after a time inflammation and its result, ulceration, softening and thickening. That it is not an inflammation from the beginning is, it seems, clearly true, from the nature of the anatomical lesions, and from the fact that the early stage is often unaccompanied by any febrile movement whatever, and is not unfrequently attended with disposition to collapse like that which occurs in the cholera

of the adult, but that it becomes an inflammation after the development of the follicular apparatus has lasted a short time, is also, I think, apparent, from the nature of the anatomical lesions, and from the circumstance that there is always more or less violent febrile reaction after the first day."

The following formula he recommends for reducing the frequency of the discharges in chronic cases, or in those subacute ones in which diarrhoea is the most important symptom:—

R. Tinct. krameiræ ʒii; tr. opii gtt. xii; syr. zingiberis ʒi; aq. fluvial. ʒxiv. Mix. A tablespoonful from five to six times a day."

Another very useful one is the following:—

"R. Tinct. kramerizæ vel colch. ʒii; tinct. opii gtt. xii; mist. cret. ʒiiss; aq. fluvial. ʒx. Mix. A teaspoonful from five to six or nine times a day."

In the treatment of dysentery, the author states that there are two remedies which have been of more positive efficacy in his own practice than any others with the exception of opium. These are the nitrate of silver and the solution of the nitrate of iron. The former he has used both internally and by injection, the latter only by injection.

"For children two years old, I have usually employed from $\frac{1}{4}$ to $\frac{1}{2}$ a grain, and for those of 5 or 6 years or upwards, a grain, dissolved in two ounces of a vehicle consisting of an ounce each of syrup of gum-Arabic and distilled water. The dose is a teaspoonful every 2 or 3 hours. It is well, as a general rule, to add from 4 to 10 drops of laudanum, according to the age of the subject, to the mixture. For each injection, I have commonly employed for each enema $\frac{1}{2}$ a grain for young children, and two grains for older ones, dissolved in four ounces of distilled water. The injections are to be repeated twice or three times each day. After the nitrate of silver has come away, it is a good rule to throw into the bowel a laudanum and starch injection. I have made use of the solution of nitrate of iron only as an injection in acute dysentery. I have employed it in 8 cases, and am quite sure that it was of essential service in 6, while in 2 it appeared to irritate, probably because the quantity given was too large. My mode of applying it is to mix from 10 to 12 drops in 4 ounces of tepid water for each injection. The injections were given twice or three times a day, and they were followed, as soon as they had relieved, by a laudanum injection."

Diseases of the Nervous System. Tubercular Meningitis.—Dr. Meigs is of opinion that this disease is rare among the more wealthy classes, having met with but 17 cases in private practice in the course of 11 years.

We think he is in error in adopting the opinion of Barrier, that the cause of the disposition on the part of the tubercular diathesis of children to localize itself in the brain is due to the physiological conditions of the nervous system in early life, which are those of great functional energy and muscular activity. It appears to us that the disease is the result of a vicious nutrition, induced by various depressing circumstances, and which is therefore the reason, probably, why it is less frequent in the easier classes. This is shown by the fact that the disease is not confined to the brain, but exists simultaneously in the lungs, the bronchial glands, the spleen, the mesenteric glands, the liver, and other organs of the body. The physiological conditions of the pia mater, in which the granulations of the brain are for the most part found, explain the predominance of the cerebral symptoms.

Miliary tubercles, observes Dr. Meigs, which are not unfrequently met with, vary much in size, number, and arrangement. They vary in size from that of a hempseed to that of a pigeon's egg; frequently there are one, two, or three, almost as large as a pea or a small nut. We have never met in tubercular meningitis with tubercles of that size. In all those cases which have come under notice, which, though not numerous, have been observed with much

care, we have found *miliary granulations*, and in equal proportion upon the upper surface and the base of the brain; more rarely in the fissure of Sylvius, and upon the cerebellum in one-fourth of the cases. They existed in the lungs in every instance in which they were observed in the pia mater, less frequently in the bronchial glands, liver, and spleen, and still less often in the mesenteric glands, small or large intestine, pericardium, and kidneys. Were the spinal column more frequently examined in autopsies, they would no doubt be often observed. Dr. Meigs observes that convulsions rarely occur in the first stage. MM. Rilliet and Barthez conclude that meningitis, without complication of tuberculous disease of the cerebral substance, never begins with convulsions; and that, on the other hand, wherever they appear at the invasion, or recur frequently or with violence, they almost always coincide with tubercles of the *substance* of the brain. The latter remark, however, is not invariably true. Not long ago, we attended a case of tubercular meningitis, in which the previous symptoms amounted to nothing more than a slight catarrh, lasting but a few days, when, almost immediately afterward, the child was severely attacked with a violent convulsion, lasting several hours, for which it was bled to the extent of ʒiij . The next morning, the patient was running about, as playful as usual. In a few days, however, it was observed that the child had fever in the evening, and was languid, which, had it not been for the attack of convulsions, might have induced the opinion that the case was one of ordinary remittent fever. The cerebral symptoms soon became more marked, and the opinion expressed, notwithstanding the anomalous character of the case, that the disease was tubercular meningitis. There was no return of convulsions during the illness, nor were there any convulsive movements, but the child lay for the most part in a comatose condition. Blisters to the extremities, behind the ears, leeches to the temples, &c., and active purgative treatment, were resorted to, without the slightest modification of the symptoms or influence upon the course of the disease. At the autopsy, which was made by my friend, Dr. Leidy, tubercular deposits were observed in the pia mater, in the lungs, and in other organs of the body, but there were no tubercles in the *substance* of the brain. This child presented no marked signs of emaciation, but, on the contrary, was apparently in good health. Neither of the parents was tuberculous.

The portion of the chapter devoted to the treatment of this disease is, we think, unnecessarily long, when we take into consideration the positively fatal character of the disease. Nevertheless, whenever there is a doubt as to its true nature, it is undoubtedly best to treat it as if it were one of simple meningitis. We were ourselves once deceived in the diagnosis, the case terminating in recovery, contrary to our prognosis. "This disease is much more frequent than simple meningitis. Bouchut states that he has met with two cases of simple meningitis to six of tubercular disease."

The chapter on cerebral hemorrhage is interesting, and deserves attention. This appears to be a rare affection, M. Barrier having seen but one in 576 cases of diseases of all kinds. We have met with it but once, and that in a child of three weeks.

We pass over the remarks on diseases of the nervous system, unattended with appreciable anatomical lesions, including general convulsions or eclampsia, laryngismus stridulus, contractions with rigidity, chorea. The latter disease has been successfully treated by the decoction of *cimicifuga* with iron. Of the former, Dr. M. gives to children of 8 or 9 years old, from ʒiv to ʒss a day, made in the proportion of ʒss of the root to a pint of boiled water.

Eruptive Fevers.—Dr. M. believes scarlet fever to be propagated by two

causes, contagion and epidemic influence. He divides the cases simply into mild and grave. As a local application to the fauces, he recommends, aqua nitrat. 10 or 20 grs. to the ounce, to be applied twice or three times a day; powdered alum, and a solution of sulphate of quinia and copper, very much used and greatly depended on by the elder Dr. Meigs. For the treatment of the dropsy, the following prescription is recommended:—

R. Potass. acetat. ℥ii; tinct. digital. gtt. xlviii; syr. scill. 3 vel ℥ij; syr. zingib. ℥ii; aq. fluvial. ℥ij. M. Give a teaspoonful every three hours, to a child three or four years old. In giving digitalis, its effects upon the pulse and nervous system must, of course, be closely watched.

Very little space is devoted to a consideration of the anatomical lesions, which, indeed, require more careful study.

The following application has been used advantageously in variola, to prevent disfigurement:—

R. Mercurial ointment, 24 parts; yellow wax, 10 parts; black pitch, 6 parts. The application ought to be confined to the face. As a general rule, 4 or 5 days are sufficient.

Diseases of the Skin.—Of these, erysipelas is the only one we shall notice. It appears to be a rare disease in private practice. Dr. M. has met with but three cases in children under six months. It is always dangerous in young children. The external remedies recommended are fomentations of the extract of poppies, diffused in warm water, and poultices of the same fluid and crumbs of bread. When the colour of the eruption is disposed to deepen from red to purple, we may use the lotion of camphorated fluid recommended by Underwood, the camphorated tincture of soap, applied 3 or 4 times a day, by means of a soft sponge, and Kentish's ointment, a remedy found of great service by Dr. Meigs, Sr., in the treatment of the erysipelas of children. It is rubbed upon the inflamed part with the fingers, the anointing being repeated often enough to keep the part always very thinly covered.

The internal treatment should consist in attention to the state of the bowels, which are to be kept soluble by the mildest laxatives, without being purged, and in a resort to tonic and stimulating remedies upon the very first approach of symptoms indicating exhaustion. The best remedies of this class are, proper diet, wine, whey, small quantities of brandy and bark, in connection with minute doses of carbonate of ammonia.

We have now gone over those parts of the work which have appeared to us to be of most interest to our readers, and cannot but express the satisfaction which its perusal has afforded us. No pains appear to have been spared to obtain the most recent information in regard to the important subjects of which it treats, and we feel confident that it will meet the approbation of the profession. Having said thus much, we may be permitted to observe how greatly the author is indebted to the labours of the French physicians, and how little to those in our own country. How long are we to endure this state of mental dependence? And, reaping, as we do, the advantages resulting from their patient observations, how grateful should every American who has been in Paris feel for the numerous opportunities afforded him of perfecting himself in his noble pursuits. In regard to the style of Dr. Meigs, we may also remark that it is wanting in conciseness. An author should always be careful to spare his readers any unnecessary labour in getting at the truth, and this is especially the case when those readers happen to be persons engaged in the arduous duties of a profession which requires almost their whole time in the performance of its practical duties. Precision, force, and perspicuity are, it appears to us, required in the attainment of a good style; and Buffon, we think, has

said, that no work, however excellent its merits in other respects, will be very long remembered, unless its style recommend it to the regards of posterity. The finest models of Rome and Greece, the Bible, the best works of our Anglo-Saxon forefathers, and of Italy, possess certain characteristics common to them all, and which have enabled them to live, and which will cause them to endure so long as the languages in which they are written shall remain known. We would suggest to the author that several subjects not treated of might with advantage be introduced into the work; as, for instance, a chapter on the mortality of infants under five years of age.

E. H.

ART. XVI.—*Syphilitic Diseases; their Pathology, Diagnosis, and Treatment; including Experimental Researches on Inoculation as a Differential Agent in testing the Character of these Affections.* By JOHN C. EGAN, M. D., M. R. I. A., &c. &c. London: John Churchill, 1853. 8vo. pp. 346.

THIS is the most recent systematic treatise on syphilitic diseases with which we are acquainted. It should rather be entitled a Treatise on Venereal Diseases, inasmuch as it embraces both gonorrhœa and syphilis. It is another offspring from the Dublin School, which had previously produced the essays of Colles, Carmichael, and Wallace, besides other minor contributions upon the same subject.

Dr. Egan has been for several years connected with the "Westmoreland Lock Hospital," in Dublin, where abundant material has been furnished him for the study of venereal diseases, and which has chiefly supplied him with the data for his treatise. We may also add that the results of his investigations were submitted to the Surgical Society of Ireland, and found great favour with that learned body.

After some very general remarks on the *history* of these affections, in which he merely coincides with most modern authors in the opinion that these diseases "existed in the remote ages of the world, although in many instances loosely and imperfectly described," Dr. Egan devotes quite a full chapter to "Researches on Inoculation."

Dr. Egan's experiments in inoculating corroborate, in the main, those of M. Ricord. There are some particulars, however, in which their observations do not agree. Dr. Egan was never able to produce the characteristic pustule of primary syphilis by inserting the muco-purulent matter of gonorrhœa beneath the skin; "but many cases presented, where the discharge was accompanied by abrasions, or superficial ulcerations of the vaginal mucous membrane, and which were followed by a mild form of secondaries (generally a papular eruption over the body), although incapable of inoculation." And again, by inoculations practised with the matter taken from buboes resulting from gonorrhœa, he says: "I was unable, after repeated trials, to elicit any effect beyond slight irritation of the cuticular surface, results so far coincident with the experiments of M. Ricord; but I have been convinced, from repeated observation, that even here a mild form of constitutional symptoms, as a papular eruption, an erythematous redness of the fauces, has often resulted on this affection."

Before the existence of chancres concealed within the urethra was so happily determined by M. Ricord, the occurrence of secondary symptoms of syphilis, after what was supposed to be simple gonorrhœa, was very commonly admitted.

And, indeed, even now, there are many who think, with Dr. Egan, that cutaneous eruptions, iritis, and rheumatism do sometimes succeed to pure and simple gonorrhœa, just as they follow upon chancre, as legitimate effects. But when we consider that gonorrhœal matter is not inoculable, as is on all sides admitted; that the occurrence of these subsequent phenomena is confessedly rare, and has by many most careful observers never been witnessed; that errors in diagnosis are easily made; that mere coincidences may be, without great care and repeated observations, raised to the importance of consequences—we should certainly be unwilling to entertain the idea that gonorrhœa has its constitutional sequelæ, and thereby revert to the chaotic state in which the profession groped before modern investigations illumined the diagnosis of the two primary venereal affections. Dr. Egan furnishes his readers with no accurately recorded cases upon which his belief is based. As to the occurrence of “papular eruptions” after gonorrhœa, we know perfectly well, as M. Ricord remarks, that they are often produced by the resinous drugs which are commonly administered to gonorrhœal patients, and which, we are allowed to surmise, may have been exhibited to the persons who fell under Dr. Egan’s notice, especially as he, in a subsequent chapter, most highly recommends their employment.

The author performed some experiments to test the inoculability of the matter of *phagedænic* syphilitic ulcers, which confirmed the statements of M. Ricord with reference to the infrequency of any positive result. “But,” he remarks, “although specific results do not always succeed to inoculation of this destructive form of ulceration, yet sufficient evidence can be adduced to prove that such consequences do occasionally ensue; and that ulcers, identical in character and disposition, have made their appearance on sound parts of the body, from the introduction of pus from these peculiar sores.” And, to confirm his opinion, he cites cases and statements by Mr. Hamilton, of Dublin, M. Ricord, and Mr. Acton, deducing from the whole the inferences that the virus of this particular variety of the syphilitic ulcer is peculiar, and that it affords one reason for believing in the existence of a plurality of syphilitic poisons; that the matter of a simple chancre produces a sore similar to that from which it was obtained, and gives rise to a tolerably uniform succession of secondary symptoms; while the matter from a phagedænic ulcer originates another like the latter, with a more or less characteristic group of constitutional phenomena. This point is discussed more at length in the succeeding chapter. In this, if we are not greatly mistaken, Dr. Egan has not correctly represented the writers whom he quotes. We are under the impression that these gentlemen contend that there is but one syphilitic virus, and that, when the secretions or the detritus from a phagedænic chancre, existing upon an individual, are inoculated in the *same* person, a similar kind of ulcer is generated, not because the *virus* is peculiar, but simply because his *condition* is peculiar. Mr. Acton expressly cites a case in which three students were infected from the same *grisette* during one evening. One had a simple excoriation, another an indurated chancre, and the third a phagedænic sore. There is no lack of similar instances.

Dr. Egan is, very properly, we think, an unbeliever in the doctrine promulgated recently by M. Auzias Turenne, that successive inoculations modify or prevent renewed infection.

The secondary and tertiary phenomena of syphilis, Dr. Egan has never found to be inoculable; yet he believes that an infant suffering from *constitutional syphilis* may communicate the disease to its nurse, and *vice versa*. But as this important subject is examined separately in a subsequent chapter, we shall make no comments upon it now.

The next subject treated of is Gonorrhœa, to the consideration of which about a hundred pages are devoted. The topic is discussed with much fairness and good sense. We observe nothing new in the author's observations; nor do we think that his description of the complaint, in all its details, is quite as full as many would desire. But the prominent phenomena are carefully exhibited, and the treatment recommended is exceedingly judicious.

The remainder of the book, nearly two hundred pages, treats of *Syphilis*, in its different phases.

Dr. Egan adopts, to a considerable extent, the views of Mr. Carmichael, with regard to the peculiarity of each variety of syphilitic primary sores, and the secondary consequences proper to each. He says:—

“In a former chapter I endeavoured to show that, when uninterfered with by local applications, venereal ulcers assume certain specific characters; that from these appearances may, to a great extent, be prognosticated what class of constitutional affections are most likely to supervene; or, rather, what will be the leading characteristics of the secondary or tertiary symptoms, should they succeed to the primary sore. I likewise stated that experience had led me to believe that syphilitic ulcers are amenable to certain fixed, though not immutable, laws; that the subsequent cutaneous eruption, together with certain abnormal alterations in the natural appearance of the throat and other tissues, result upon peculiar forms of primary sores; and that these general indications (although, as in the case of eruptions, they may partake more or less of a mixed character) are sufficiently preserved in their distinctive traits to enable us to recognize upon what species of original infection they are consequent. My faith in this doctrine has been strengthened by the results of inoculation; and I have previously demonstrated that matter taken from primary sores of a recognized class will produce ulcers of a similar description.” Pp. 151, 152.

The assertion made in the last clause of the above quotation is scarcely warranted. So far as we have been able to detect, by repeated careful perusal of the chapter on inoculation, Dr. Egan has not attempted to prove that any one of the varieties of chancre begets its like, excepting the *phagedænic*; and, as we have before remarked, it is much more probable that the identity in this case is due to the fact that the inoculation was practised upon the same person from whom the matter was taken, rather than to the cause assumed by Dr. Egan. It is true, that he does not inform us that his experiments with the *syphilitic* virus were thus conducted; but, inasmuch as this is the common plan, and it is not otherwise stated in his book, and as we are told that his inoculations with *gonorrhœal* matter were performed upon the patient from whom it was obtained, we think it fair to infer that such was the case with the chancreous virus. In addition to the case which we previously cited from Mr. Acton, to show that one and the same chancre may produce in different persons different varieties of primary sore, we quote the following from the same author:—

“M. Vidal de Cassis took the secretion from the sore of a patient (which sore was unindurated) and inoculated a healthy pupil; the inoculated point in the pupil took on an indurated character, and the young man suffered most severely.” P. 375.

If, then, the character of a primary sore is not determined by that of the ulcer from which the infection was contracted, it does not seem logical to infer that the symptoms of constitutional disease will be decided by it. It seems to us more probable that both the primary and the secondary phenomena are dependent upon the local and constitutional peculiarities of each individual.

The classification which Dr. Egan adopts is the following: 1. *The superficial primary ulcer*, its most common sequelæ being a papular eruption, in-

creased vascularity of the throat, pains in the joints, simulating rheumatism, and iritis. 2. The primary ulcer, distinguished by *elevated margins, centre slightly excavated, and even without granulations*, followed by increased vascularity with a dry and granular appearance of the throat, a pustular eruption, painful distension of the joints, and nodes. 3. *The phagedænic primary ulcer*, inducing sloughing ulceration at the back of the pharynx, rupial eruption, severe pains in the joints, and nodes. 4. *The indurated primary chancre*, succeeded by excavated ulcer of the tonsils; enlargement of the cervical glands, the scaly eruption, pains in the head and shafts of the bones, and nodes.

Dr. Egan does not contend that the above will be found to be the invariable grouping of the symptoms of syphilis, but that it will be so in general. Each class is well described, and for each a very judicious mode of treatment is recommended.

Besides these, he enumerates the tubercular eruption, and caries and exfoliations of the nasal bones, under the head of "unclassified constitutional affections;" while muddiness of the skin, alopecia, affections of the nails, affections of the tongue, ulcerations, syphilitic testicle, and bubo are considered as "affections common to all classes."

An interesting chapter is devoted to the description of syphilis as manifested in pregnant women and infants. We quote the result of Dr. Egan's observations:—

"1. The foetus in utero may be contaminated by decided syphilitic symptoms in the father, while the mother may present no traces of the disease. 2. The child may be affected by a *latent venereal taint* in the father, while the mother may exhibit no evidence of the malady. 3. The child (with the exception of purulent or gonorrhoeal ophthalmia) is rarely affected during its entrance into the world. 4. Abortion may be prevented, and a healthy child insured, by a judicious mercurial treatment during pregnancy. 5. A syphilitic taint in the unimpregnated female may be removed by the employment of mercury."

"Syphilis as contracted from nursed children" is the topic considered in the seventeenth chapter. Dr. Egan is, as we have already intimated, a believer in, and a warm advocate of, the doctrine that an infant affected with secondary syphilis only may, and frequently does, infect its previously healthy nurse. To prove this, he cites opinions from several distinguished men, and quotes cases. But we must say that, to us, his argument is exceedingly weak and inconclusive.

In the first place, this mode of infection is most improbable. Direct experiments with regard to the inoculability of all forms of constitutional syphilitic disease have, in the hands of Dr. Egan and all other observers, been unsuccessful. And the investigations of John Hunter and Ricord have equally demonstrated that the blood and the secretions of persons affected with constitutional syphilis are not inoculable. Dr. Egan himself adopts and urges the truth of this discovery, indorsing the assertion of Mr. Travers, "that the natural secretions, by a most happy economy, however they may deviate from a healthy standard, are not in any case a vehicle of this poison." p. 308. Moreover, cases are recorded by Mr. Hunter and M. Ricord (*Traité de la Maladie Vénérienne, par J. Hunter, avec des Notes et des Additions par Ricord*, Paris, 1852, pp. 563-4), in which the secretions of chancres have been actually *swallowed*, and yet no infection has resulted. If, then, neither the secretions from constitutional syphilitic ulcers, nor the blood, nor the natural secretions of persons suffering under lues venerea can occasion any specific effect, so far as experiment has determined, is it probable that a specific ulcer or constitutional symptoms are produced by the contact, in suck-

ing or otherwise, of a poxy infant? And a very curious fact, inexplicable excepting upon the admission of an error of observation, is that, according to the statements of all, Dr. Egan amongst the rest, *an infant never communicates the disease to its own mother*, but only to its hired nurse. Is it probable that, if a mother should be inoculated with syphilitic virus taken from a chancre existing upon her own child, proper conditions being attended to, infection would ensue less certainly than if a hired nurse were tested with the same matter?

Again. The cases quoted by Dr. Egan are by no means satisfactory. The first, indeed, is, it appears to us, an unfortunate one for him.

"The child, as stated by the medical attendant, had sores on its mouth, around the anus, and on the scrotum. The nurse contracted the disease; was covered with a desquamation of branny scales all over the body; infected her husband, the disease in whom appeared in tuberculated ulcers on the dorsum of the penis, &c." P. 294.

Now, is it to be believed that an infant, a nursling, not having primary syphilis, and the symptoms of whose constitutional infection were not inoculable, could generate within the vagina of its nurse a sore by means of which the husband's penis should become affected with "tuberculated ulcers?" Or, even if the ulcers on the infant's mouth were *primary* (as may have been the case, because the *mother* had "an intractable sore on her breast," which very probably was a chancre and infected the infant's mouth, from which, in turn, the nurse *may* have become contaminated), how came the virus in the nurse's vagina? King George marvelled how the apple got into the dumpling; but we may be more astonished at this phenomenon. In any event, the case is not a fair one, because the infant may have had, and seems to have been supposed to have, primary sores upon its mouth contracted from the ulcer upon its mother's breast, which primary sores may have infected the nurse, the virus having come in contact with the abraded surface of the nipple, or having been accidentally inserted within her external genital organs, thus explaining the occurrence of the "tuberculated ulcers" on the penis of the nurse's husband; or some such virus must have found its way into the vagina of the woman. Either supposition, as we have said, removes the case from the category now under consideration.

The second case is thus advanced:—

"The subject of it, a Mrs. A——, in consequence of her own child being unable to suck the breasts, a strange infant was applied, and continued twice a day for four or five days. At this period the left nipple was fissured, and a number of spots subsequently appeared around it. Six weeks after, she was affected with a syphilitic eruption, and excavated ulcers in the tonsils supervened. The nurse and child finally recovered. The wife, adds Dr. Gavin, being virtuous, could be inoculated in no other way than through the suckling of the diseased babe."

Perhaps here lies the difficulty; it is *assumed* as indubitable that the woman is "*virtuous*," and the husband pure, and, therefore, the infant is the cause of the disease. Evidence such as this must be "ruled out of court." And more than this, so far as the report of Dr. Egan is to serve as the basis of an argument, it is not said that anything whatever was the matter with the child.

Dr. Egan's own cases are four in number. In not one of them was an examination of the genital organs of the nurse made; and as, in the instances already cited, the only reason for doubting the existence of primary syphilis in the woman was that, in one, the person was "a married woman, and mother of three children; her husband a man of irreproachable character;" another was "of strictly temperate habits, married, and mother of four chil-

dren;" a third was "aged sixty, of temperate habits, a widow, and mother of nine children; her husband dead seven years;" the fourth was "married, and mother of five healthy children; of strictly temperate habits; her husband a man of excellent character." In a matter of so much interest to science, and of such vast importance in a social and moral point of view, we do not conceive that a physician should be satisfied with such loose evidence of character; he should, before hazarding an opinion, insist upon a *careful scrutiny of the woman's person*, in order to see if she may not have a primary syphilitic ulcer, or the vestiges of it. Nothing less than this can be satisfactory.

But, to continue our examination of Dr. Egan's cases. In the first, the nurse assured the doctor that she took an infant to nurse, seven weeks old, and, "to all appearance, in the enjoyment of perfect health. In a week afterwards, an eruption made its appearance, first on the nates, and subsequently on the inside of the thighs, which continued alternately declining and reappearing, and was the only symptom of disease present, until within the last two months, when she observed a soreness of the mouth, and a disposition in the mucous membrane to become detached from the lips." The doctor himself says:—

"On examination, an ill-defined scaly eruption is visible on the inner part of the thigh and arms of the child; a few spots are interspersed over its body; there are no condylomatous excrescences, or any other affection, in the vicinity of the anus or vagina, and the mouth is now perfectly healed."

Now, we submit that there is no proof whatever, either in the statement of the nurse or in the report of Dr. Egan, that this child had syphilis at all; and it must be borne in mind that we have no reason to suppose that either of the parents had syphilis, and that when the nurse took the child the latter was, to all appearance, perfectly healthy. But, in the course of the narration, it is stated that the nurse presented, with other phenomena, tuberculated condylomata at the orifice of the vagina. It is certainly to be regretted that, while Dr. Egan was examining the genital organs, he did not make a thorough scrutiny.

"Moreover, an ulcer, about the size of an ordinary plum-stone, of an irregular and excavated form, with uneven and slightly everted edges, situated immediately to the right of the nipple, is seated on the left breast of the nurse; which, she states, first presented itself a few days after the mouth of the child became affected, and commenced in the form of a fissure, which has been gradually increasing in size to the present time."

This may have been the source of the assumed infection of the child. The fact that Dr. Egan was unable to inoculate from it does not positively determine its non-specific character, for he admits that he has not always succeeded in inoculating from undoubted chancres; nor do we think that in a case of this kind, where probabilities are so opposed to the story, the nurse's account of the order of sequence of the phenomena is of much weight. As the case now stands, therefore, there is reason to *suspect* that the nurse herself may have infected the child, if the latter is to be supposed to have been affected with syphilis.

In the second case, a married woman was employed as wet-nurse to an infant six weeks old, and apparently in perfect health. About a month afterwards, a "rash" appeared on the child's body, which a physician "*suspected*" to be syphilitic. The rash gradually disappeared under "the usual remedies;" but after some time the nurse observed "blisters on the tongue and palate of the child, with a constant flow of saliva from the mouth; the lips shortly afterwards assumed a fissured appearance." These symptoms do not by any means indicate a syphilitic taint. The existence of a "rash" upon nursing children is as common as the infants themselves; and the appearances described

in the mouth and lips are much more likely to have been produced by "the usual remedies" than by constitutional syphilis. But, Dr. Egan goes on to say: "An ulcer is perceptible on each breast of the nurse; that on the right is about the size of a split pea, and is situated immediately above the nipple; the left is somewhat smaller, and engages the nipple itself, at its upper part; both are slightly excavated; they were formerly attended with a discharge, but are now perfectly free from the slightest degree of moisture." In this instance, also, an attempt to inoculate failed.

The third case is worth nothing. A widow, sixty years old, undertook as dry-nurse the care of an infant, "which at the time was labouring under disease, manifested by sores about the nates and mouth. The latter she describes as being of a brownish colour, and attended with a constant flow of saliva." In some unknown way, a scratch appeared upon the neck of the nurse, which was supposed to have been infected from the child's mouth, and which, when seen by Dr. Egan, presented the appearance of "a lacerated wound, of about an inch and a half in length, running parallel with the inferior edge of the clavicle on the right side, surrounded by an erysipelatous blush, which is gradually lost in the adjacent structure. The neck and arms are covered with an eruption, the character of which it is impossible to determine, being now in the stage of desquamation." The nurse had been profusely salivated. There is surely nothing in the report of this case to warrant any one in surmising that either the infant or the nurse had syphilis in any form.

The last instance adduced by Dr. Egan is substantially as follows: An infant, a year and a half old, born of syphilitic parents, was committed to the care of its grandmother, as dry-nurse; shortly after its birth "an eruption" appeared upon its body, which alternately declined and reappeared; at the period of the grandmother's taking charge of the child, "there were sores at the verge of the anus of the infant, the mucous membrane of the lips was inclined to peel off, and the tongue was the seat of small white blisters." The grandmother "states that she was constantly in the habit of kissing the child during the time its mouth was affected, and more than once applied her lips to the sores on the anus." About three months, more or less, after the commencement of her service, the nurse perceived for the first time blisters on her tongue, with a fissured state of the lips, which disappeared in the course of six weeks without having recourse to any mode of treatment. During this period she describes herself as "very dead in spirits," with an unaccountable oppression over her. In a month after the tongue and lips had healed, she was attacked with an inveterate itching of the vulva, which was succeeded by elevated "condylomatous sores." She afterwards had an attack of "inflammation of the right eye," and subsequently iritis, probably, of the left eye. No examination of the genital organs is spoken of, nor was inoculation from the ulcers of the vulva practised—an unfortunate omission, truly, and one which is well calculated to throw doubt and suspicion upon the woman, as being indebted to herself for her own constitutional infection, if it be admitted that she had syphilis.

On the whole, then, what conclusion can be drawn from these six cases, as reported in the book before us, the negative results of direct inoculation of the matter of secondary syphilis being borne in mind? In the first, it is probable that the infant had a primary syphilitic ulcer upon its mouth, and the nurse a primary sore in her vagina, so that the latter had a twofold source for her constitutional contamination. In the second, Dr. Egan gives us no right to fancy that the child was at all diseased, and no other reason to suppose that the nurse had not, or had not had, a chancre, saving the assertion that she was "virtuous." In the third, we must doubt that the infant was diseased, and we must strongly

believe that the nurse herself had had primary syphilis, either in the vagina, or upon the breast, or in both these situations. In the fourth, there is again no evidence whatever that the nursing was diseased; but it is not impossible that the very unusual ulcers upon the woman's breast were chancres. In the fifth, not the slightest ground exists for supposing that either nurse or nursing were in any way affected with syphilis. In the sixth, we cannot say that the child had the disease, but we do affirm that the inveterate itching of the vulva, and the elevated ulcers found there, render it more than probable that the nurse herself had primary syphilis.

We have dwelt thus minutely upon this question, because it is so important in its social and medico-legal aspects, and because we have thought that the arguments usually brought forward to sustain the fact of infection under such circumstances will not bear scrutiny, as we trust we have shown with regard to those advanced by Dr. Egan. It would have been quite possible, seemingly, for him to have established the point at issue, affirmatively or negatively, by subjecting the genital organs of these women to a rigid inspection, as well as testing the specific or non-specific character of the ulcers elsewhere presented. And simply because the sores were situated upon unusual parts of the body, it by no means follows that they were not chancres. Those who have read the works of M. Ricord, must be familiar with the fact that chancre has no fixed position; it has been found between and upon the breasts of women, in and about the mouth, beneath the chin, in the axilla, at the anus—in short, wherever the arrangement and situation of parts afforded the possibility of bestial gratification to men already satiated with enjoyment obtained in the natural use of the sexual organs. Without great watchfulness, and careful examination, a mistake is easily made by the surgeon; and, moreover, the propensity to lie, common to almost all venereal patients, must be excessively strong in a woman who thinks to cover up her own guilt, or to excuse or account for her own disease, by charging the cause upon the infant committed to her care.

An apposite instance is recorded by M. Ricord, in his *Lettres sur la Syphilis*, p. 103. A nurse had charge of a child of perfectly healthy parents; an eruption appeared upon the infant, and the nurse, fancying or pretending that she had become infected therefrom, insisted upon indemnification. The parents resisted, and the case was submitted to M. Ricord. He found that the child had a common *porrigo larvalis*, and that the nurse bore upon each breast an *indurated chancre*, placed opposite each other; he finally obtained from the woman the acknowledgment that a man, not her husband, “dans la crainte de lui faire un enfant et d'altérer son lait, s'était livré sur elle à des actes que la plume se refuse à tracer.”

We need not quote the deductions which Dr. Egan draws from the facts collected in this chapter; but there is one so improbable that we cannot refrain from submitting it to our readers. He says, p. 323 :—

“Infection may be communicated to a *hired dry-nurse* by mere contact, without any breach of surface. This can only occur where she is engaged in caring for, but not suckling the child.”

The concluding chapter contains some general observations on the treatment of syphilitic diseases. The comparative merits of the mercurial and non-mercurial plans are fairly set forth, and a sound discriminating judgment is displayed in the author's views respecting them.

In conclusion, if we were to express our opinion concerning the absolute merits of Dr. Egan's treatise, we should say that it furnishes a useful digest of the phenomena and treatment of venereal diseases, on most practical points; but that, in the discussion of questions requiring a careful observation and a rigid interpretation of facts, it is often at fault.

F. W. S.

BIBLIOGRAPHICAL NOTICES.

ART. XVII.—*A Practical Treatise on the Diseases of Children.* By D. FRANCIS CONDIE, M. D., Secretary of the College of Physicians; Member of the American Medical Association; Member of the American Philosophical Society, etc. Philadelphia: Blanchard & Lea, 1853.

THIS new edition of Dr. Condie's Treatise came to hand at so late a period, that we cannot do more than cursorily notice it. The work has, however, been so often and so favourably mentioned in this journal, that it is hardly necessary, indeed, to do more than announce its appearance. The fact of its having reached a fourth edition in so short a space of time from its first publication, is sufficient proof of its merit, and of its approval by the profession at large. The present edition is much augmented, and the style of its publication reflects credit upon the publishers, the paper being good, and the type unusually clear and large.

The frequent reference to German authorities constitutes a remarkable feature in the work of Dr. Condie, and adds much to its value. Indeed, the study of the German language is all-important to the physician who would keep pace with the progress of medical science.

Typhoid fever is one of the diseases noticed by Dr. Condie, and which does not appear to be described in the work of Dr. Meigs. It is, however, a disease of not unfrequent occurrence, and we shall, therefore, notice what he says in relation to it.

"The memoirs of Rilliet and Barthez afford sufficient evidence that many of the cases of what was formerly considered as enteritis in children, as well as of that form of fever which has been vaguely denominated worm or gastric fever, are in fact cases of genuine typhoid fever."

"A most interesting paper on the typhoid fever of infants occurs in the *Archive für physiologische Heilkunde*. It is by Dr. Friedleben, and presents the results of his observations during four epidemics of the disease; the first extending from February to April, 1844, and from July to August in the same year. Then in January and February, 1846, and during July and August of the same year. During the months of January and February, 1846, the fever was confined almost exclusively to children, affecting the adult more particularly during April and May. In the course of the three years from 1844 to 1846, both inclusive, Dr. Friedleben had under his charge 1842 children (880 boys and 962 girls), of which 98 cases were of typhoid fever, namely, 46 boys and 52 girls. Among these only one was under one year, 23 ranged from two to five, 32 from five to eight, 22 from eight to eleven, 12 from eleven to fourteen, and 8 were above fourteen. The epidemic, therefore, fell with its greatest force on children between the second and eleventh years, and was more prevalent in winter and summer than in autumn and spring.

"The pathological characters of the disease, as exhibited in those who fell victims to it, are thus described by Dr. Friedleben.

"The glands of Peyer were much swollen, some of them being a line and a half in thickness. The swelling was not, however, always uniform, the centre being frequently more elevated than the margins. Their surface was unequal, owing to the presence of capsules, which gave them the appearance of ulceration. The number of the diseased glands varied from six to twenty. They were of a bluish livid tint, soft, and easily detached. No change seemed to have occurred in the other coats of the intestine, with the exception of the sub-glandular cellular tissue, which presented the appearance of softening. Such were the appearances noticed in cases which proved fatal before the twenty-third day. When the disease was protracted beyond that period, induration of the glands occurred.

"According to Dr. Friedleben, all the glands which became developed before

the twenty-first day were the soft (follicles), those later, the hard (glands of Peyer). His observations establish the views of Rilliet and Barthez, as also those of Barrier, on the progress of inflammation of the glands. Severe ulceration of these may occur in exceedingly young subjects; they were witnessed in the case of a child only two years and a half old. They may take place at a very early period of the disease, even on the eighth day, but cicatrization does not begin before the twenty-first day; its progress is found to be more rapid than in adults.

"The mucous membrane is usually sound, being changed in appearance only in the immediate vicinity of the glands. In one instance, the mucous membrane of the stomach was observed to be inflamed. The submucous cellular tissue was always natural. Changes were invariably discovered in the mesenteric glands; they were usually red and swollen, particularly at the beginning of the disease; infiltration and softening were rare; and, in the opinion of Dr. Friedleben, the former only occurs in very serious cases, where there has been disorganization of the condition of the blood.

"The general conclusions are as follows:—

"1. The glands of Peyer, and, as a consequence, the mesenteric, are the local seat of the typhoid fever of the infant.

"2. During the first three weeks there is only simple inflammation of the follicles.

"3. This may terminate in resolution without ulceration.

"4. When ulceration takes place, the progress of cicatrization is very rapid.

"5. When the morbid action extends beyond the twenty-first day, infiltration of the glands of Peyer may occur.

"6. The infiltration begins in the glands in the proximity of the great intestine.

"7. This leads necessarily to ulceration.

"8. In this form of ulceration, cicatrization takes place very slowly.

"9. After the twenty-first day, the two forms of ulceration may be discovered in conjunction.

"10. In all the cases terminating favourably, and in the generality of those ending in death, the mesenteric glands are only affected by a simple inflammatory softening.

"11. Changes in the spleen occur simultaneously with those above described.

"12. All the complications which happen before the twenty-first day are of a very distinct inflammatory character.

"13. The chemical character of the blood agrees with that state."

The following observations from the chapter on vaccination are of interest:—

"By many physicians of great respectability, it has been supposed that the protective powers of the vaccine infection become gradually impaired, as the individuals who have been subjected to its influence advance in age, until, finally, they become anew susceptible to the contagion of smallpox. Brown, of Edinburgh, Gregory, of London, Muhl, of Copenhagen, Heim, of Wirtemberg, and some few of the physicians of this country, advocate this opinion; all of whom insist upon the necessity of revaccination, as a means of restoring to the system its immunity from variolous infection.

"We have collated with no little care the leading facts which bear, either directly or indirectly, upon this question, especially those recorded during the last ten years; all of which, in our opinion, very fully sustain the position of Jenner, that, in every instance in which the system can be fully infected with the vaccine disease, it affords a protection against the occurrence of smallpox, which is unimpaired with the lapse of time. The question as to the propriety and advantage of revaccination is, nevertheless, a very important one. That among a given number of those who have been apparently successfully vaccinated, there will be found many in whom, from some cause not well ascertained, a greater or less degree of susceptibility to variolous infection is left unextinguished, and which susceptibility augments in time, is a fact that would appear to be well established; and such individuals will be found to be also susceptible to reinfection by the vaccine virus. Now, the question presents itself: Will it be possible, by subjecting such persons to revaccination, to protect them from an attack of smallpox? In order to test this question, revaccination has, for

some years past, been very extensively practised in many parts of Europe, and the results obtained thus far are curious and interesting.

"We have collected together the results of 498,325 revaccinations performed by different individuals in Europe and this country. In about 37 per cent. of these the revaccination is stated to have been successful; while in 81,252 cases in which a second revaccination was performed, in about 11 per cent. the operation is reported as successful.

"We are not, however, to conclude that in every case in which revaccination is successful the individual has been previously well vaccinated. In, perhaps, the majority of instances, we have no other evidence of the primary vaccination, and of its character, than the report of the individuals themselves, and the presence of a more or less perfect cicatrix upon the arm, neither of which is to be received as conclusive. But, after making a reasonable deduction for such cases as may be supposed to have been imperfectly vaccinated in the first instance, there still remains a large number of cases (about 33 per cent.) in which the primary vaccination, though to all appearances regular and complete, fails, from some peculiarity of constitution, to afford a perfect security from subsequent variolous infection, and in which a revaccination is essential, in order to insure to the individuals a full protection.

"If, therefore, the facts upon record are perfectly accurate—and there is no reason for suspecting them to be otherwise—they afford conclusive evidence of the necessity and importance of revaccination in all cases in which persons are liable to be exposed to the infection of smallpox; not, however, from any fear that the protective power of the primary vaccination, when the system has been placed fully under its influence, may be impaired by time, but simply as a test whether the susceptibility of the individuals to variolous disease has been fully extinguished.

"Had we no other proof of the importance of revaccination, that derived from the results of the operation among the soldiers of the Prussian army would be sufficient. The whole army now enjoys an almost entire immunity from the contagion of smallpox, notwithstanding it has been repeatedly subjected to its influence. To the report for 1841, we find attached the following important statement. The powerful influence of revaccination, in the diminution of variolous diseases at the different military hospitals, is most remarkable. During the year 1841, there occurred but 50 cases, of which 10 were genuine variola, 24 modified smallpox or varioloid, and 16 varicella. Three of the patients died; of these, one had not been vaccinated on his admission into the army, but his certificate indicated that he had been a short time previously; the second occurred in a recruit, who had not been revaccinated; and the third in a non-commissioned officer, who had been revaccinated some years before, but without success. Before the order for revaccination was issued, the different barracks used to be a prey to varioloid disease, which has now almost entirely disappeared.

"A few years since, a prize was offered by the Academy of Sciences of France, for the most satisfactory essay in reply to certain queries relating to the preservative power of vaccination, the necessity of renewing the vaccine virus from the cow, and the necessity of revaccination. The various essays sent in by the competitors for the prize were referred to a committee of the Academy, whose report, submitted in February, 1845, concludes with the following general summary deduced from the facts presented by the authors of the essays.

"1. The preservative power of vaccination is absolute for the majority, and temporary for a small number; even in the latter it is absolute until adolescence.

"2. Smallpox rarely attacks those who have been vaccinated in infancy, before the age of ten or twelve; from which age, however, until thirty or thirty-five, the vaccinated are particularly liable to smallpox.

"3. In addition to its protective power, vaccination so modifies the animal economy, that it attenuates the symptoms of smallpox, abridges its duration, and considerably diminishes its danger.

"4. Vaccine matter taken directly from the cow causes local symptoms of greater intensity, while its effects are also more certain than those of old vaccine matter, but after being transmitted for a few weeks through the human subject, the local intensity disappears.

"5. The preservative power of vaccine matter does not seem to be intimately connected with the intensity of the local effects produced by it; nevertheless, it is prudent, in order effectually to preserve its protective power, to procure new matter from the cow as frequently as possible.

"6. Revaccination is the only known method of distinguishing those of the vaccinated who remain protected from those who do not.

"7. Successful revaccination is not a certain proof that the person in whom it succeeds was liable to contract smallpox; it merely establishes a tolerably strong presumption that they were more or less liable to be so.

"8. In ordinary periods, revaccination should be practised after the first fourteen years, but sooner during the prevalence of an epidemic of smallpox.

"At a recent meeting of the London Epidemiological Society, Dr. Waller Lewis read a highly interesting and valuable paper on the Relations of Vaccination and Inoculation to Smallpox. From the facts and cases adduced by him the author drew the following general conclusions, which correspond with those at which we had previously arrived from the results of our own observations.

"1. That vaccination is a most eminent protection against smallpox.

"2. That, when perfectly performed, it is almost, and in some instances more protective than inoculation, or smallpox itself.

"3. That it appears to render some exanthemata, as, for example, measles, milder than they would have been otherwise.

"4. That neither vaccination, inoculation, nor smallpox, guarantees the individual in every instance from smallpox.

"5. That smallpox attacks some persons three times, or oftener.

"6. That there exist certain individuals who have perfect immunity from vaccination, inoculation, and smallpox.

"7. That great susceptibility to, or perfect immunity from, smallpox, is sometimes found to be common to several members of the same family.

"8. That sanitary conditions have a very powerful effect on the spread of smallpox in common with other epidemics.

"It appears, Dr. Lewis remarks, from the cases adduced by him, and the deductions therefrom, that the laws which regulate the apparent mysteries of smallpox are as follows:—

"A. Smallpox is a disease to which almost every person is liable once in his lifetime, unless protected.

"B. But there is a small fraction of the community who appear to enjoy an exemption from this law, no degree of exposure, either to vaccination, inoculation, or casual smallpox, causing them to take vaccine or variola.

"C. That there is a certain portion, on the other hand, in the exactly opposite condition. These individuals, whose systems appear to present a soil peculiarly favourable to the development and spread of smallpox virus, are eminently susceptible of the disease. It is to this class that those persons belong who have repeated attacks of variola; who take smallpox after being inoculated or vaccinated. For such persons there is no safety but in repeated vaccination.

"D. And lastly, that between this latter class and that favoured portion of the community that possess perfect immunity there exists every shade and degree of susceptibility.

"These laws explain the apparent inconsistency in the views held respecting the protective powers of vaccination. Thus, all those individuals, forming an enormous majority of mankind, who possess an ordinary, moderate degree of liability to smallpox, are completely guarded against the influence of smallpox virus, either by perfect vaccination, inoculation, or a previous attack of smallpox; while others, who have a much greater susceptibility, will be protected by neither one nor the other."

The article on hemorrhage from the navel is of much practical importance. According to Dr. Minot, the most that can be hoped from local applications is a temporary arrest of the bleeding, until the condition of the blood can be improved. The ligature appears to be the most likely to effect this, and the sooner it is employed the better, since every drop of blood is of importance in such young subjects. I believe the best mode of employing it is to transfix the

umbilicus by two needles at right angles, and to wind the thread tightly underneath them.

The various diseases incident to childhood are treated by Dr. Condie at length, and he gives us the most recent information upon these important topics.

We cannot too highly recommend the work of Dr. Condie to the profession. It stands at the head of similar works in this country, being remarkable for its great accuracy and fulness, and the clearness and precision of its therapeutical directions. The author's familiarity with the German language has enabled him to avail himself of the best German authorities; and the frequent reference to them, as before remarked, adds much to the value of the work. E. H.

ART. XVIII.—*Transactions of the Medical Society of the State of Pennsylvania at its Annual Session, held in the City of Philadelphia, May, 1853.* Vol. III. Published by the Society. Philadelphia, 1853: 8vo. pp. 126.

THE present volume of *Transactions of the State Medical Society of Pennsylvania*, by no means equals in interest either of the two preceding. The reports it embraces are less full, and the facts detailed in them have a less important bearing. This, however, has not originated so much in a falling off in the zeal and industry of the several county societies from which these reports emanate, as in an actual want of materials for their preparation. Restricted to a history of the diseases that have prevailed during the period immediately preceding their presentation, and the relation of these to the topographical peculiarities of the districts of country, and to the meteorological condition of the seasons in which they occurred, the reports must necessarily vary from year to year, in interest and importance, according to the character and extent of the diseases that annually prevail. During the year, terminating in May, 1853, to the medical history of which the reports in the present volume of *Transactions* refer, the entire State enjoyed an unusual share of health. While there was an almost entire absence of any serious or extensive epidemic, even the ordinary endemic maladies of the different sections of the State appear to have prevailed to a much less extent, and in a much milder form than usual. There was, consequently, but little to communicate in the reports from the several counties—no opportunity being afforded, amid the general exemption from disease of the community at large, of recording observations calculated to increase our knowledge of the character and nature of disease, or of the means adapted to its prevention, mitigation, or cure.

We do not regret, however, that the reports before us have been made and published—meagre and devoid of interest though they be. Independently of the importance we attach to a regular succession of medical reports from every section of the United States, we are not certain but that light may be thrown upon the etiology of disease by the medical history of the most healthy years and localities, if due care be taken to record faithfully and minutely their meteorological peculiarities. We should desire to see a more complete series of reports than has yet been made, from every county in our State, embodying the experience of the several practitioners within its limits in reference, not merely to those maladies occurring, often at long intervals, as epidemics, but to those, also, which are endemic to their localities, or which are strictly sporadic in their character.

In the volume before us, the Address of Dr. Corson, delivered by him as President of the Society, at the opening of its late session, occupies a prominent position. It is a well-written production, somewhat discursive in its topics; embodying an expression of the writer's "thoughts on those subjects likely to occupy the attention of the Society, or which seemed to him appropriate topics for consideration."

After a brief and very appropriate allusion to those members of the Society who had died since the preceding annual session, Dr. Corson presents an ad-

mirable summary of the leading objects of the Society—which, as it presents at once a fair exposition of the true motives which should lead to an encouragement of medical organization, and of the good thence resulting, we take pleasure in laying before our readers:—

“The Society,” Dr. Corson remarks, “was organized for the purpose of advancing medical science—to increase our knowledge of the laws of health, the causes of disease, and the modes of cure. If we had met only to advance our own interests; to lay plans by which we could receive greater compensation for our services, and rid ourselves of the toil and responsibility consequent to a faithful performance of duty, we would have been justified by the example of those engaged in other business pursuits. But I trust we have a higher and nobler object—self-aggrandizement has no place among the aims of this Association. The honour, humanity, and philanthropy, that have always characterized the medical profession, still animate its members, and invite to exertions for the benefit of our race. We come only that we may bring together the stores of facts and observations of the past year, that we may compare them with those which have accumulated from the foundations of the world, in order to draw instruction therefrom. We of the country come here with high hope—we look with confidence for instruction to those who, with a benevolence and self-sacrifice honourable to human nature, gratuitously bestow their daily labour upon the unfortunates who fill the great *charities* with thousands of patients afflicted with every variety of disease; and to those who, night and day, thread the streets and alleys of this great city and minister to the wants of the sick. Your great medical attainments, your well-formed habits of observation, your long and varied experience, eminently qualify you to bestow lessons of wisdom. For the much we receive, we bring to you the history of diseases as they appear throughout the State. The reports of the County Societies inform you of the cause, progress, and duration of epidemics—the circumstances by which they are modified, the class of persons most liable to be affected, and the various modes of relief which have been practised. They point out the diseases which prevail along rivers or in deep valleys—which prefer to range across mountain districts, or limestone regions, or gravelly soils—they present you with accurate geological maps, and mark the diseases which prevail in each formation. By them, you discover at a glance the immunity from, or liability to disease of the coal or iron-ore miner, who plies his work down in the deep, dark, damp mine, or of the delicate child, who, from morn till night, breathes the cottony atmosphere of the factory, or of the farmers and mechanics who enjoy the high privilege of good and wholesome food and abundant exercise in the open air. It is thus to interchange knowledge that we have come together—but not for ourselves. It is that we may return to our homes, to labour again with new and better means of relieving those who apply to us for relief. This association of physicians was too long delayed. During the long years that we stood aloof from each other, deep injuries were inflicted on the profession by the hostility of its members. Every blow struck at each other tarnished the character and lessened the respectability of our noble calling. If our profession has been dragged from the height which the world once accorded to it, it was our own fault. ‘A house divided against itself cannot stand,’ is as true now as when uttered eighteen centuries ago.”

After pointing out the good which, in his opinion, the profession may derive from the opposition of medical quacks and impostors, and the useful lessons it may learn from the reckless or futile plans of treatment pursued by the several classes of empirics, Dr. Corson proceeds to discuss the importance of chemistry to the physician, and to the necessity of giving to it a more prominent position in our courses of medical instruction, and of insisting upon a knowledge of it as an essential prerequisite to admission to the doctorate. In all his views upon this important subject we fully concur.

The next subject noticed in the address of Dr. Corson is that of the preliminary education of those who intend to engage in the study of medicine.

“Physicians in the country,” says the doctor, “have been urged to be very careful in the admission of students into their offices; to take only those who are of good character, who have some knowledge of the Greek and Latin lan-

guages, and who, in short, come up to a standard fixed by the American Medical Association. No one can be more anxious than myself, that all who commence the study of medicine should have a preliminary education even greater than that recommended; but whilst those upon whom rests the obligation to reject all who are not properly prepared to perform the duties which belong to the physician forget their obligations, and set at defiance their responsibilities, by giving a diploma to those grossly ignorant of several important branches of medical science, we may well be excused for permitting the meritorious and aspiring boy, ignorant though he be of Latin and Greek, but who has worked his way, through many difficulties, to a knowledge of that language which is spoken by twenty millions of American freemen; the language which first gave utterance to the 'inalienable rights of man;' the language of our common schools, our seminaries, and colleges; the language of the press, the bar, the pulpit, and the senate of his country; the language in which Shakspeare wrote, and Scott and Byron sung; the language which records the achievements of every science, the history of every tradition and revelation, from those contained in the rude hieroglyphics found in the monuments of Gizeh (and which date back 3893 years before the Christian era) down to the last fresh record of scientific discovery in the middle of the nineteenth century—I say, we may be excused for permitting the youth who has made himself acquainted with this language, to enter our office, and contend, with whatever disadvantage of start, with his more learned competitor for the highest honours of the profession. Shall we judge him without trial?"

All this is very true. An individual who has received a good English education, if in all other respects qualified, need not be rejected as a student of medicine. No one ever pretended that a knowledge of Greek and Latin was absolutely necessary to enable the student to acquire a knowledge of medicine, or to apply that knowledge, when subsequently he enters upon the active duties of the profession, to the investigation of disease, with the view to its prevention and cure. A sound classical education is unquestionably desirable in a physician, as well from its own intrinsic value, as to enable its possessor to take his proper rank among men of science and learning, as a member of a liberal profession. But while we are willing to admit that a knowledge of Latin and Greek is not essential to the physician, we are somewhat fearful that the remarks of Dr. Corson, which follow the passage just quoted, will be misconstrued by some into a denial on his part of the necessity of even a good English education in those who would enter upon the study of medicine.

After mentioning a few of those who have risen to eminence as men of science, and in the ranks of our profession, without the advantages of early education, Dr. Corson remarks:—

"It is useless to present more instances of men who have become eminent in this and other professions without the benefit of early education; they abound in every profession and in every department of labour. Some men, whose preliminary education has been of the most desirable kind, are so mean, selfish, unkind, and avaricious, as wholly to unfit them for the sacred duties of the physician. Others, whose opportunities of improvement have been very limited, possess the genius and all the ennobling qualities which adorn the physician and the man. Let us then look to the *general* qualifications of the student. Let us incite him to a noble emulation of the studious and the worthy. With this our duty will end. And when he shall come finally before the assembled faculty, who are to judge of his fitness for the profession that he has chosen, it will be their duty—a solemn one, indeed—to test his qualifications to perform the most responsible duties that can possibly devolve upon any human being."

It is unquestionably true, that individuals of most limited education have entered upon the study of medicine; have mastered all the difficulties incident to an acquisition of its principles, and of the numerous facts upon which those principles are based, and, by their professional skill in the practice of their profession, and their success in enlarging the boundaries of the healing art, have given to their names a merited prominence upon the roll of distinguished physicians. But this in no degree disproves the importance of a liberal preliminary education to the medical student. We admit—all must admit—that

they who are endowed by nature with the adequate mental power and energy may, by industry and perseverance, overcome early deficiencies of education, and, even with restricted opportunities for improvement, may outdistance others who, with inferior native talents and energy, have been reared from their earliest youth in schools and colleges. These individuals do not succeed, however, independently of education, but by its subsequent acquisition, with much toil and labour; all of which would have been saved them, and their onward progress in the attainment of knowledge and the investigation of truth facilitated, had they been afforded the proper opportunities for an adequate preliminary education in the outset.

"Our County reports," remarks Dr. C., "furnish some valuable facts for future generalization, but they may hereafter be of much greater value, if the attention of physicians can be specially directed to a few important subjects which have not yet found a place in our proceedings."

Among these subjects, an inquiry as to what are the diseases in which there exists a necessity for the employment of mercury as a curative agent, and into the possibility of substituting for it a less objectionable remedy of equal efficacy, is adduced.

"Let the attention of the County Societies be directed to this subject. Ask them to report to our next meeting whether there are any diseases to the cure of which mercury is absolutely essential. If so, which they are; whether they have tried the remedies recommended in the place of calomel; and if so, with what results. The science of chemistry is furnishing us with a host of new and varied preparations. There may be found a safe and efficient substitute for mercury."

The inquiry here suggested is a legitimate, and, it may be, in the end, a profitable one. For ourselves, we feel no desire to see mercury stricken from our list of remedies. It is admitted that, in common with every active article of the *materia medica*, its injudicious use has been productive of no small amount of evil; that even now it is often given in diseases where, to say the least, its remedial effects are extremely problematical; and that, even in those affections where it would appear to produce its best effects, it is often employed in doses much too large to be safe. Nay, farther, it is admitted that, in certain "depraved conditions of the system," severe effects are liable to follow the use of mercury, "in despite the utmost caution." Still, in the face of all these admissions, our own experience has taught us that, while it ranks among our most important remedies, fulfilling with great certainty a wide range of important indications in the management of disease, it is, at the same time, when appropriately and judiciously administered, as safe as any other of the active medicinal agents in common use. There can be no objection, certainly, to receive an adequate substitute for mercury, should such a one, perchance, be discovered; but, until then, we cannot admit the propriety of surrendering one of our most efficient remedies to the prejudices of the public, strengthened and fostered though these prejudices be by charlatans, in order to subserve their own selfish ends.

The address of Dr. Corson closes with a forcible appeal to physicians to review their practices and opinions in reference to the use of alcoholic drinks as a beverage, and as a remedy in the treatment of disease. The subject is one of vast importance, in a moral, hygienic, and therapeutic point of view, and one which, "as the conservators of the public health, as scientific practitioners, and as honest men," we are bound to examine. In view of the evils entailed upon individuals, families, and communities by the abuse of alcoholic drinks, and of the facility with which their use, under any circumstances, creates an insatiable and uncontrollable thirst for them, it is incumbent upon the physician to ponder well his serious responsibility before recommending them to his patients as a necessary or beneficial stimulant during health, as a preventive of disease in unhealthy localities or seasons, or as a restorative during convalescence.

The reports from the County Societies embraced in the present volume of *Transactions*, are thirteen in number, most of them very concise.

Among the diseases of greatest frequency in various parts of Pennsylvania

during 1852, may be ranked erysipelas. In the report of the Berks County Medical Society, it is remarked that: "Dr. P. G. Bertholet, of Oley, mentioned, at our last County Society meeting, that he has met with much of phlegmonous erysipelas, and that several deaths took place, in his vicinity, from puerperal fever."

In the report from the Chester County Medical Society, it is stated that: "Drs. Pennypacker, Worthington, and Price speak of having seen a few cases of erysipelas of the head and face, at the commencement of the year; Dr. Pennypacker himself having just then recovered from an attack of it."

In the report of the Schuylkill County Society, Dr. Carpenter remarks:—

"Erysipelas has prevailed to some extent in the spring and fall, and, in my practice, has shown a great tendency to the phlegmonous form; sometimes, when neglected, running into a typhoid fever.

"The remedy which I have used, with the most marked success for the past three years, is the muriated tincture of iron. This, with saline laxatives and cooling drinks, I believe to be an invaluable remedy. Several of my medical friends, in this county, have also tried this plan of treatment, with a like beneficial result.

"External applications are of little or no value, until an altered condition of the capillary circulation is brought about; and, when this is effected, they are not required—the disease is overcome."

In Logan's Valley, says the Blair County report, erysipelas made its appearance in January, but did not prevail extensively. In the same report, we are informed by Dr. J. D. Ross, that in Williamsburg, of Erysipelas, "Eight or nine cases occurred under his care during the year; more than half the cases were adults of various ages; the eruption occupying the face and scalp exclusively. The balance were children, the eruption occurring on the abdomen or extremities. All recovered without anything worthy of notice, either in their progress or treatment.

"Three cases of puerperal fever came under our treatment, two of them very severe, although all recovered."

In the report of the Huntingdon County Society, Dr. J. C. Hirst observes: "During the latter part of the year, there seemed to be a strong tendency to erysipelas and affections of that type; fresh wounds, although trivial, were much disposed to assume an erysipelatous character. A few cases occurred without any visible exciting cause. I have not the least doubt but that a peculiar condition of atmosphere exists to such an extent as to predispose the system to the disease above mentioned."

In the report of the Cambria County Society, it is stated, that "Erysipelas has been observed to appear more frequently in the sporadic form, and not as an epidemic, and to assume an inflammatory character. During the past year, several cases occurred along the line of the Portage Railroad, which readily yielded to the antiphlogistic treatment. The disease, generally, was confined to the head and face; and, as a local application, nothing appeared to produce so soothing an effect upon the patient as pieces of old muslin or linen, kept constantly smeared with *lard*, and laid over the inflamed surface. Tincture of iodine was also found very beneficial in some cases, and seemed to merit all the encomiums that have been uttered upon its use."

In the report of the Montgomery County Society, "Dr. Poley mentions having treated 'at least 100 cases of erysipelatous inflammation of the throat,' from February until the middle of June, none of which proved fatal. He says: 'The inflammation was of a diffused character, extending over the whole of the throat; there was great difficulty of deglutition, but generally not much swelling; and there was nearly always a tendency to end in ulceration or mortification, in a few days after its commencement, in bad cases; although it rarely or perhaps never terminated in suppuration. I used the nitrate of silver from the beginning, as stated in speaking of the treatment of scarlet fever. I also allowed good nourishing diet—beef broth, chicken broth, milk, &c. I regard the nitrate of silver and turpentine as almost equivalent to specifics in this disease, *when properly employed*.'

"A few cases of erysipelas are reported by Dr. Wm. Corson, in whose prac-

tice this disease made such terrible ravages in the winter of 1847 and the spring following. He met with but two fatal cases, and says that 'it showed but very little tendency to diffuse itself, and was not accompanied by puerperal fever, as it was in 1848.'

"A terrible epidemic, however, of this disease prevailed along the north-eastern border of the county, principally in the practice of Dr. Geiger, from whose notes we learn that 'the first case occurred on January 7, and the last on June 15. So closely did it resemble, in all its features, the epidemic just alluded to as having prevailed in the vicinity of Norristown in 1848, that the description of it in the *Transactions* of the State Society for 1851, will answer for this.

"Like it, it spared neither age, sex, nor condition; and like it, too, it marked the parturient woman for its especial victim. Not a single woman, living within the range of the disease, who was delivered during its prevalence, escaped an attack. Out of the twenty-nine puerperal cases attacked, seven died.

"As a proof of its non-contagiousness, and that the physician does not communicate it to those whom he may attend, I may mention that, during its prevalence, I delivered quite a large number of women in that portion of my practice where it did not exist, none of whom were affected; and that two patients, living in the infected district, who were attended by one of my students, Dr. Edwin Rottenstein, now of Berks County, who had not previously attended any persons labouring under it, were both attacked and both died. Another woman, who was completely delivered (so as to require no attendance) before one of my pupils reached the house, was attacked with a violent chill soon after his entrance. This was followed by the usual symptoms of puerperal fever. On the third day erysipelas appeared, very slightly, on the surface; on the sixth she died.

"Besides these cases of puerperal fever, which were evidently erysipelatous, males were frequently attacked with symptoms indicating inflammatory disease in the various internal organs, as the brain, lungs, heart, intestines, and their serous investments. That it was of an erysipelatous character, is proved by the fact that, not unfrequently, the blush made its appearance on the surface in the course of several days. When this occurred, it was always a favourable sign; none of the cases died in which its eruption was well marked.

"Altogether, I attended one hundred and twenty-eight cases, twenty-nine of which, as already stated, occurred in puerperal women. Of the remaining ninety-nine, fifty-six had the disease only externally, or in the throat, and forty-three were affected with symptoms of internal disease. None of the cases, which were affected on the surface only, died; whilst of the forty-three in which internal organs were involved, five perished.

"I cannot, of course, in so brief a communication, enter into any general details in regard to the treatment. Suffice it to say that early bleeding was usually indicated, and seemed to exert a more beneficial influence than any other remedies. Some cases, however, in which the pulse demanded it, and it had a fair trial, ran on to a fatal termination, evidently unchecked by it; but these were truly of a formidable nature. In some, the pulse was so low as to entirely preclude this treatment; these were often much benefited by affecting the system with calomel; although this indication was not very easily fulfilled. Others, in which there were tolerably distinct remissions of febrile excitement, were treated with the best effects by sulphate of quinia—showing, almost conclusively, that it is *the remedy*, in all remitting diseases, without regard to their nature. Turpentine, when the tongue assumed that peculiar condition now so well known, produced its usual good effects."

In regard to the influence of geological formation on the character of the prevailing diseases, the reports in the present volume afford us but few observations from which any general conclusions can be safely drawn. Of dysentery, it is stated in the report from Delaware County, that "the geological formation appears to have exerted but little influence over it; for though the alluvium was mostly clear, ~~yet~~ one district of it, which was exempt last year,

was visited during this to a very considerable extent; it also prevailed over both drift and primitive structures."

In the report from Lancaster County, we have the following statements:—

"Dysentery has been found most prevalent in the primary or slaty district. Dr. Stubbs, who practises in that section, writes that, in the little village of Fairfield, containing something over one hundred inhabitants, but four escaped the disease, which was of a mild type, yielding readily to simple treatment; many cases not coming into the hands of the physician, the people resorting to the usual domestic remedies with success. The surrounding country, he states, was entirely exempt from the disease, and for its singular occurrence at that particular point, he could assign no special cause.

"Respecting the declaration made in previous reports from some of the counties, that dysentery does not prevail upon the limestone formations, the Committee feel compelled to give their testimony against such opinion. In the city of Lancaster, and its vicinity, which is in the centre of the great limestone district, the disease is of frequent occurrence. In 1851, a most severe epidemic of the disease occurred, many cases of which terminated fatally. The disease was clearly of miasmatic origin, being wholly confined to such regions as are usually prone to the prevalence of remittent and intermittent fevers. The treatment necessary in many of the cases also proved that fact, as many would not yield until the influence of quinia was brought to bear upon them."

In the report from Blair County, Dr. Confer, of Logan's Valley, says that—

"Typhoid fever has prevailed at different periods during the whole year. It was epidemic during the winter and spring—subsiding somewhat during January and April (at which times there was a general breaking-up of ice, and an increase of atmospheric heat), and disappearing in the latter part of May. Sporadic cases occurred in the summer and the beginning of the fall, and again during the winter. The disease was not observed by me on any but slate formations since I have first seen it; and whenever it was epidemic, I found the land rough, spouting, moist, or swampy, and the thermometer low."

In the report from Huntingdon County, we have the statements of Drs. J. T. McVey, and M. Miller. According to the first, "Dysentery of a low type prevailed a few miles south of this during the months of July and August, four out of ten cases having a fatal termination. All these were located on a limestone formation, using limestone water generally; no cases occurred on any other formation in this locality during the year, to my knowledge. The only thing differing in the treatment of those cases from the usual course was in a female, aged thirty-three; when, after all the usual remedies had been used with but temporary relief for seven weeks, she was relieved and restored to health as if by magic, by an occasional dose of acetate of morphia and *electro-magnetism* freely applied."

Dr. M. Miller remarks: "About the first of October, a few cases of dysentery came under my care, but they presented nothing contagious in their character. The geological formation on which they occurred was the slate; yet I am not prepared to say that dysentery, in this Valley, has been found more frequently on that formation than on any other, some of the worst cases having occurred on a limestone formation during an epidemic in this Valley a few years ago."

The report from this County concludes as follows:—

"It remains to add, relative to the influence which different formations of soil may exert upon constitution and disease, that last year's experience has not thrown any more light upon the subject; nothing positive can as yet be stated, and the results of inquiry have proved too contradictory. The hilliness of the country, the smallness of the valleys, and the short continuation of the same kind of soil, are obstacles which, as yet, have prevented us from arriving at any decided conclusions or important truths in that respect. We have a geological map in preparation, and it is hoped that by its aid we may be enabled soon to contribute, with our experience, to the discoveries which are being made now everywhere on that important and interesting subject."

In the report from Montgomery County, the following remark occurs:—

"Dysentery prevailed to a trifling extent. Dr. Beaver reports twenty-seven cases, and Dr. Hiram Corson nineteen, all of which recovered. Dr. Corson's

patients all lived in the Limestone Valley, where the water that is drank is of course impregnated with the calcareous deposits of the soil."

Dr. Carpenter, of Pottsville, in the Report from Schuylkill County, remarks:—

"The influence of altitude upon the production or modification of diseases is a subject of much interest and importance, and it was my intention to have presented to this Society some facts and deductions of practical value in relation to the management of certain affections of the chest. Want of time, and other reasons not necessary to mention, will prevent me from saying more upon this subject, than that I have come to the conclusion, from the examinations I have made, and from facts that I have obtained, that, *within certain limits*, a high locality, with its consequent rarefied atmosphere, is conducive to a healthy state of the lungs, as well as to an expansion of the chest, and an increased capacity for the inhalation of air.

"At our next annual meeting I hope to present the subject to the Society more fully, and in a better form. At present, I merely suggest it for their consideration."

A map of altitudes is appended, to give an idea of the different elevations along some of the principal river-courses and lines of railroad in Schuylkill County, with some statistics as applied to rapid or sluggish descent of water in different rivers.

A very interesting paper on vaccination, smallpox, and varioloid is furnished by Dr. Gemmill, of Alexandria, Huntingdon County. In the employment of what was recommended to him as pure vaccine matter, Dr. Gemmill was unfortunate enough to communicate, by its insertion in the arm of several children, genuine smallpox. From a close examination of the details given of the several cases in which this matter was used, we are strongly inclined to believe that the scab employed in the first instance was variolous. During a practice of over thirty-six years, including six in which we held the situation of vaccine physician to a populous district, we have seen great irregularity in the progress of the arm after vaccination, and various anomalous eruptions upon the skin, in cases in which impure or deteriorated vaccine virus had been employed; but in no instance whatever have we known any affection, that could with propriety be denominated genuine variola, to occur, unless smallpox matter had been accidentally or intentionally employed. We trust that, in the information the Committee on Vaccination and Smallpox, appointed at the last meeting of the State Society, shall succeed in collecting, will be embodied the experience of the leading physicians of our State, in reference to this particular point.

D. F. C.

ART. XIX.—*A Discourse on the Life, Character, and Services of DANIEL DRAKE, M. D.* Delivered, by Request, before the Faculty and Medical Students of the University of Louisville, January 27, 1853. By S. D. GROSS, M. D. 8vo. pp. 92.
A Biographical Notice of DANIEL DRAKE, M. D., of Cincinnati. Prepared by Appointment of the College of Physicians of Philadelphia. By CHARLES D. MEIGS, M. D., Vice-President of the College. Read at the Meeting, July, 1853. 8vo. pp. 38.

DR. MEIGS, in referring to the custom of the College of Physicians of Philadelphia, to direct a memoir to be presented of every departed fellow and associate, very justly remarks, that "this custom holds out to each living member of the institution a warning and invitation to consider what manner of record shall be made as to him, and to ponder upon that course of life which may best secure for him an honourable remembrance on the one hand, or, on the other, leave him to depart from your midst, conscious that he has neither contributed nor attempted anything for the increase of the talent he had received, as a sacred trust, out of that great inheritance we have, in common, derived from the whole history of our philosophy and our art."

We know of no one whose life, character, and labours are better calculated to furnish the invitation indicated in the above quotation than the late Dr. Daniel Drake. In his early struggles, amid many difficulties, for the attainment of an adequate medical education; in his unremitting industry to improve every opportunity that presented itself for the cultivation of his mind and the increase of his professional knowledge and skill; in his untiring zeal for the promotion of education in the State and city he had adopted as his home; in his labours to increase the boundaries of medical science, and in the cheerful devotion of his time and his talents in aid of every enterprise calculated to augment the health, the comforts, and the happiness of his fellow-creatures—the humblest votary of the healing art, if endowed by nature with the requisite talents and energies, will find an example well adapted to encourage him to struggle on amid every obstacle and discouragement that may beset his path, with the certainty that, by perseverance, he may ultimately obtain a similar eminence amid his professional brethren to that achieved by his exemplar, and be able to erect for himself a monument as honourable and imperishable as the great work of Dr. Drake on the Diseases of the Interior Valley of North America.

As Dr. Meigs correctly remarks: "Dr. Drake was a man of great and merited reputation, which extends even to the outer boundaries of the republic of medical letters; and, as a citizen, he reflected honour on his country." "His name is destined to be reverently pronounced wherever the medical biography and history of America shall hereafter become known."

In the two memoirs before us, both prepared by friends who knew him well, and duly appreciated his worth, one of them having been for a long series of years his colleague as a teacher of medicine, we have a vivid delineation of the life and labours of Dr. Drake. They are alike equally honourable to the heads and hearts of their distinguished authors. The memoir of Dr. Gross enters most fully into the events of his colleague's life, and delineates with greatest minuteness his literary and professional labours, and his services as a citizen, a patriot, and a philanthropist. The memoir of Dr. Meigs is the most finished production, entering less into details, but, at the same time, portraying with equal faithfulness and warmth the leading particulars of the career of Dr. Drake, the traits of his mind and conduct, and his contributions to medical knowledge, which enroll his name among our country's most gifted sons.

Dr. Drake will no doubt be referred to as an example of the attainment of professional skill, distinguished success as a public teacher, and great facility and correctness as a medical writer, without the advantages of preliminary education. Let us hear, however, the testimony of Dr. Gross upon this subject; and we shall pause before we adduce the brilliant results of Dr. Drake's "almost unassisted course of mental development," to disprove the importance of education as a preliminary to the study of medicine:—

"Dr. Drake's own standard of medical knowledge was of the most elevated nature. No one understood better than he the importance of a thorough education and of a well-disciplined mind. His own early deficiencies, ever present and ever recurring, had made an impression upon him which nothing could efface. His occupation as a teacher of medicine had brought him, for years, in daily contact with men and youths who were not only destitute of preliminary education, but, from the want of opportunity and mental capacity, utterly incapable of acquiring any. This state of things, so prevalent and deplorable, he often lamented to his friends and colleagues, while he never failed, on all proper occasions, to assail it in his writings and prelections. The difficulty under which a teacher labours in imparting instruction to such pupils, and preparing them for the successful exercise of their high and responsible duties as practitioners, can be more easily imagined than described. His daily experience in the lecture-room, showed Dr. Drake how much of the good seed that is there sown falls upon barren soil, or how, instead of producing good fruit, it yields nothing but tares and thorns. Such was his feeling upon this subject, that, in numerous conversations he had with me respecting it, he often expressed himself as being almost ready to abandon teaching forever. Like many others, he perceived the remedy, but was unable, from the want of co-operation, to apply it. Poor as he was, he would a thousand times rather have

lectured to a hundred intelligent and well-prepared young men, than to five hundred ignorant and ill-prepared. His object was, not the acquisition of gain, but the desire to be useful and profitable to those whom it was his duty to instruct in the great principles of the healing art."

Our estimate of the character of Dr. Drake, as a man and a physician, is such as to render us desirous of seeing an extended notice of his life and labours widely disseminated; hence we join in the hope expressed by Dr. Meigs, "that a complete biography of this eminent person may, by some competent hand, be hereafter prepared."

D. F. C.

ART. XX.—*L'Huile de Foie de Morue envisagée sous tous Les Rapports comme Moyen Thérapeutique*, par L. J. DE JONGH, Docteur-médecin à La Haye. Paris, 1853: 8vo. pp. 262.

Cod-liver Oil, examined in its several Relations as a Therapeutical Agent. By L. J. DE JONGH, M. D.

THIS is not, strictly speaking, a new edition of the former work of Dr. Jongh, on the Three Species of Cod-Liver Oil. Although based upon that, still, with the exception of the chemical analysis of the three species of the oil met with in commerce, in relation to which there is no important change, the entire work has been rewritten and considerably enlarged. Analyses have been added of varieties of the cod-liver oil, but little or not at all known, when the former treatise was published, as also several additional chapters, devoted to a consideration of the usual sophistications of the oil, and the means for judging of its purity; on the adaptation of its different species to particular forms of disease, and on the therapeutic action of the remedy. The chapter on the several diseases in the treatment of which the cod-liver oil is indicated, has been entirely remodelled, so as to embrace not only everything of interest, in reference to the subject, recorded since the appearance of the author's former treatise, but a series of important observations partly borrowed from other authorities, and partly made by Dr. Jongh himself; so that, in its present form, the work may be considered as a complete monograph, in the several chapters of which the reader will find a very faithful abstract of the present state of our knowledge of the chemical composition of the different species of the cod-liver oil—their relative therapeutic value, and remedial properties.

We quote from the third chapter of the present treatise, the remarks of the author on the means of determining the purity of the cod-liver oil, although we are not so well convinced, as he would appear to be, that we have not, in some at least of the other fish oils, a remedy of equal efficacy in the several forms of disease in which it has been found most beneficial.

"The salutary action of the cod-liver oil," says Dr. Jongh, "depends solely upon its particular properties, and the want of uniformity so often complained of in its therapeutic action, can only be referred to the employment of a sophisticated article. It is, therefore, all-important to be able to distinguish the genuine from the sophisticated oil, especially as there are means by which the ordinary fish oils may be well adapted to this sophistication.

"In sulphuric acid we possess a reagent by means of which the true cod-liver oil may be readily distinguished from every other oil.

"A few drops of this acid produces in the oil of olives a dirty gray colour, in the oil of poppies a deep yellow inclining to brown, and in ordinary fish oil a deep brown colour; but when added, drop by drop, to cod-liver oil, a peculiar centrifugal movement is produced from the spot at which the drops fall, and at the same time a beautiful violet tint, which is instantly changed into purple by agitating the oil.

"Many chemists suppose that this change of colour results from the iodine contained in the oil being set free by the action of the sulphuric acid; but the fact that a similar change of colour is not produced by the action of the sulphuric acid upon common fish oil, many specimens of which contain also iodine, is sufficient evidence that this explanation is not the true one.

"The observation of M. Pettenkofer (*Annalen der Chem. und Pharm.* 1844, Bd. lii. s. 90; *Simon's Chemistry*, trans. by Day, vol. ii. p. 193), that the sulphuric acid produces upon solutions of bile a reaction similar to that produced by it upon cod-liver oil, and of M. Strecker (*Ann. der Chem. und Pharm.* 1848, Bd. lxi. s. 15), that the sulphuric acid produces similar effects upon solutions of cholinic acid, joined to the discovery I have made of the presence of the principles of the bile, and among others of the cholinic acid, in cod-liver oil, are sufficient to prove that it is to the presence of this acid in the latter that is due the change of colour produced by the action upon it of the sulphuric acid.

"This opinion, which I fully entertain, in common with Professor Pereira, was first announced by him in 1849. The objection to its correctness, which may be adduced from the fact that, for the change of colour produced by sulphuric acid in solutions of bile, it is required that a third substance should be present, namely, sugar, falls to the ground, in consequence of the discovery of M. Strecker (*Pharmaceutical Journ.* 1849, vol. viii. No. 8), that the sugar may be replaced by the acetic acid, without altering the result. Now, this acid having been found by me in cod-liver oil, the opinion of M. Pereira is thus fully sustained.

"M. Gobley (*Journ. de Pharm.* 1844, 3e série, t. v. p. 308) was the first to propose the sulphuric acid as a test for the oil of the ray, and M. Hockin for the cod-liver oil.

"Although this test will suffice to distinguish the cod-liver from every other oil, it will not, however, answer to distinguish from the genuine oil, the various mixtures of this with ordinary fish oils, or with the vegetable oils, unless the quantity of the first is very small. When the amount of genuine oil present in the mixture is more considerable, the sulphuric acid produces the characteristic change of colour.

"Although the amount of iodine contained in cod-liver oil often varies, I have, nevertheless, proved by repeated experiments that the quantity of iodine present is the best means by which to distinguish the genuine oil from the mixtures referred to. An experience of many years has taught me that the pure oil contains always a medium amount of from 0.020, to 0.030 parts in the hundred of iodine; hence, I regard as mixtures of the cod-liver oil with oils of non-remedial properties every specimen of the article containing a less quantity of iodine than just indicated.

"The mixture of other oils with iodine or various iodurets are without difficulty detected. Genuine cod-liver oil, when treated with water or alcohol, never gives up to these fluids the iodine contained in it, while the iodine and iodurets mixed with other oils are always extracted by this procedure.

"The genuine oil, when carbonized, without being first saponified, and the carbon is then separated by means of alcohol, does not betray the least trace of iodine, while it is invariably detected when other oils, combined with almost any of the iodurets employed medicinally, are treated in the same manner. Finally, the genuine oil, when saponified, never communicates to the mother water the slightest trace of iodine; while the contrary is the case when other oils combined with iodine, either in a free state or in any of its combinations, are subjected to saponification.

"A series of experiments have proved to me that, by the above means, we can readily detect in sophisticated oils iodine, the iodurets of potassium, sodium, magnesium, and calcium; the deuto-ioduret of mercury, the iodides of potass, soda, and mercury, as well as the different combinations of iodine with phosphorus."

Some interesting observations are presented by M. Jongh, in reference to the comparative curative powers of the three species of cod-liver oil met with in commerce.

From Norway we receive three varieties of the oil, the *pale* or white oil, or, as Dr. Jongh remarks, what should more properly be denominated the yellow oil, the *brown* or light brown oil, and the *black* or dark brown oil.

"The difference of colour, taste, and odour of the several species of cod-liver oil, as well as the difference in their chemical composition, although this latter is often produced by other causes, results chiefly from the different modes in

which they are prepared, causing certain principles to be present in a greater quantity in one species than in another." "Thus, the oil obtained by spontaneous exudation, has always a clear yellow colour, when it is immediately separated from contact with the livers from whence it has exuded. The oil obtained by a moderate heat is of a clear brown colour; a similar shade may be produced in the pale oil by allowing it to remain too long in contact with the livers. Finally, the employment of a greater degree of heat produces always the species of oil designated as the black.

"The putrefaction of the livers, and the action of a heat, more or less intense, upon the animal fat, exercising, necessarily, a considerable influence in the formation of the volatile acids, it results, consequently, that the pale oil, which exudes spontaneously from the livers previously to the actual occurrence of putrefaction, must possess these only to a small extent; that the brown oil, which has remained a longer time in contact with the livers, or has been obtained by the employment of a moderate degree of heat, will contain more of them; while the black oil, which has remained still longer in contact with the livers, and besides, has been subjected to a more intense heat, will contain the largest amount. Hence, results the less decided taste and odour of the pale oils, and the strong taste and smell of the dark oils.

"The other causes which influence the smell, taste, and colour of the oil, are its being too long kept in storage, and the action of the air. The merchants of Norway attribute the change which the colour of the oil undergoes, when kept too long in casks, to the action on it of the oak staves of which the casks are formed, while the augmentation in the taste and odour of an animal fat, such as the cod-liver oil, is readily explained by the action of the air, which, as we are aware, favours the transformation of the fixed fatty acids into volatile acids."

"Although the oil received from Norway presents an infinity of shades, with respect to colour, taste, and smell, I believe that the physician may confine himself to the three varieties above mentioned, inasmuch as the difference between these has direct reference to the different modes in which they are prepared, while the intermediate shades are merely produced by accidental circumstances, and are of no moment in a medical point of view.

"Besides these three species of cod-liver oil, obtained principally from Norway, it is necessary now to admit a fourth. I refer to that which for a few years past was prepared in small quantities by the English pharmacutists, but is at present prepared on a large scale in Newfoundland. This oil is distinguished from the three kinds above noticed, in its being almost without colour, taste, or smell. Its mode of preparation, it being obtained from the livers previously to their putrefaction, explains its want of taste and smell; the putrefactive fermentation of the livers causing the development of the volatile acids, to the presence of which is due the peculiar odour and the taste, more or less decided, of different species of the oil. So also in regard to the bilious principles, these are necessarily extracted in great part from the English oil, by the water employed in its preparation, and in which they are soluble."

From a series of experiments undertaken by Dr. Jongh, with the view of determining which of the three species of the oil met with in commerce is possessed of the greatest efficiency as a remedial agent, he concludes, that in all cases in which the employment of the cod-liver oil is indicated, its curative powers will be obtained, whether the pale, the brown, or the black is employed, provided each be genuine and unmixed; but that these powers will be evinced much more promptly by the last species, less so by the second, and still more slowly by the first. The deeper-coloured sorts possessing thus in the highest degree the remedial properties of the oil, Dr. Jongh has confined himself to the employment of these as a therapeutic agent, choosing, however, the brown oil, from the difficulty there is in inducing patients to take for a sufficient length of time the black species, in consequence of its nauseous smell and taste.

"The difference," remarks Dr. Jongh, "that I have observed in the action of the three species of cod-liver oil, can only be attributed to their different chemical composition. Even had this not been proved by my analysis of them, I should nevertheless not hesitate to assume it as an irrefutable position, inasmuch as without a difference of composition a difference of action is inadmissible."

But, he adds, by a series of chemical analyses, it has been shown that "the lighter-coloured oils are the most rich in inorganic principles, while those of a darker hue contain in greater abundance the bilious principles and volatile acids. It is on this account we believe, and not without reason, that these latter, although not to be regarded as the only, are yet the most active principles of the oil, and that the circumstances by which these principles are developed in the greatest quantity in the deeper-coloured oils, exert a considerable influence in enhancing their remedial powers."

The entire treatise of Dr. Jongh is replete with interest, and may be consulted with profit, as well by the pharmacist as by the physician. D. F. C.

ART. XXI.—*On the Nature and Treatment of some Painful Affections of Bone.*

By LANGSTON PARKER, Professor of Anatomy in Queen's College: Surgeon to Queen's Hospital, Birmingham, England. London, 1852. 8vo. pp. 16.

WE are indebted to the author for a copy of his interesting paper, read before the Medico-Chirurgical Society of Queen's College, Birmingham, October 19, 1852. Its object is to recommend the operation of trephining in some painful affections of the bones, "for the purpose of relieving diseased conditions of their interior, besides those which are marked by the formation of matter." He states that he was first induced to attempt this operation by the report of the case in which Sir Benjamin Brodie, suspecting the existence of matter, trephined the humerus of a patient; but although the instrument penetrated completely from one side of the bone to the other, no matter escaped. "Sir Benjamin thought that he had committed a blunder, but the wound healed well, and the relief to pain was complete." Many of these painful affections of bone, Mr. Parker believes to be due to an inflammation of the medullary membrane of the shaft, or that which lines imperfectly the cancelli and canals of the extremities of long bones; and as this membrane is inclosed in an unyielding bony case, of course its diseases must be accompanied by extreme pain. He is very sanguine that amputation may frequently be avoided by perforating the bone, and, if necessary, promoting the discharge by the introduction of a seton. A fixed and continued pain in a bone, with or without enlargement of its shaft, of sufficient violence to threaten the destruction of the health and life of the patient, and the failure of all remedies adopted for its relief, he regards as a sufficient indication for the operation. He observes: "I have now performed the operation I have just alluded to, in six different cases, for painful affections of the long bones, which have resisted all other modes of treatment, and in each case with success. No constitutional disturbance of any importance has followed any of these operations. In Chatwin's case, the pain consequent upon the perforation of the bone was severe for some days, but this was much more bearable than the pain for which the operation was performed. It subsided at the end of that period, and the patient has since enjoyed the best health."

In one case, where the inflammation of the medullary membrane was of venereal origin, and the pain had resisted the use of blisters, opiates, iodide of potassium, &c., and was at times so excessive that the patient frequently implored him to amputate the limb, the trephine, though not carried through the bone, afforded complete relief. As this membrane is liable to become inflamed in scrofula, syphilis, rheumatism, and from wounds, of course cases must not unfrequently occur in which the surgeon, by making a timely opening, may be of immense service to his patient. We regret that we cannot insert some of the cases detailed by Mr. Parker. They are full of interest and instruction. Even without their support, however, a plan of treatment proposed by this well-known syphilographic and able surgeon should be entitled to the most respectful consideration. The perusal of his little pamphlet has afforded us much pleasure and profit. G. C. B.

ART. XXII.—*Principles of Medicine: comprising General Pathology and Therapeutics, and a brief General View of Etiology, Nosology, Sematology, Diagnosis, Prognosis, and Hygienics.* By CHARLES J. B. WILLIAMS, M. D., F. R. S., Fellow of the Royal College of Physicians, etc. etc. Edited, with Additions, by MEREDITH CLYMER, M. D., etc. etc. Fourth American edition, revised. Philadelphia: Blanchard & Lea, 1853. 8vo. pp. 476.

WITH this very able treatise the medical profession are now perfectly familiar, and have very generally evinced their appreciation of its merits. It will be unnecessary, therefore, in announcing the appearance of this fourth American edition, to enter into an examination of the manner in which the author has fulfilled the task assumed by him, that of presenting a fair abstract of the present state of our knowledge in reference to the several subjects it embraces.

The chief aim of Dr. Williams appears to have been, to present those facts within the domain of his general subject which have been the most fully verified, and those deductions that seem the most tenable, excluding all doubtful observations, and a host of discordant opinions little calculated to improve our acquaintance with the true principles of medicine.

The work, though it embraces a candid exposition of the labours of all those who have contributed most to the improvement of the departments of general pathology and therapeutics, is not to be viewed in the light of a mere compilation. Its pages present many facts derived from the author's own observations, and views original with him; which latter, even though occasionally in opposition to those held by distinguished cultivators of the same fields of inquiry, are deserving of a careful and candid consideration.

Taken as a whole, the treatise will be found a faithful guide to the student, and a useful book of reference for the practitioner. D. F. C.

ART. XXIII.—*The Action of Medicines in the System; or, "On the Mode in which Therapeutic Agents introduced into the Stomach produce their peculiar Effects on the Animal Economy."* Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for MDCCCLII. By FREDERICK WILLIAM HEADLAND, B. A., M. R. C. S., etc. Philadelphia: Lindsay & Blakiston, 1853. 8vo. pp. 560.

THE inquiry to which the present dissertation is devoted, is confessedly a most important one. As the author very properly remarks: "For the proper perfection of medicine as a rational science, two things are in the main needed; the first is a right understanding of the causes of disease, the second, a correct knowledge of the action of medicines. Should our acquaintance with these two subjects be complete, we should then be able to do all that man could by any possibility effect in the alleviation of human suffering."

It is certainly a mortifying fact that, notwithstanding the rapid advance which most of the departments of medical science have made during the present century, still, in the actual amount of our knowledge of the action of medicines and of their agency in the cure of disease, we do not greatly excel our predecessors. A vast number of new and potent remedies, it is true, have of late years been added to our lists of the *materia medica*, but still, even of these, the true therapeutic action and application are but imperfectly understood. As well remarked by Dr. Headland:—

"On no question, perhaps, have scientific men differed more than on the theory of the action of medicines. Either facts essentially opposed and incompatible have been adduced by the disagreeing parties; or, which is nearly as common, the same fact has received two distinct and opposite interpretations.

Many hypotheses, when tested, are seen to be grounded on bare assertions, and to be destitute of logical proof; many others are attempted to be established on ill-sustained analogies. Analogy, in such a case as this, may be used to increase a probability already evidenced; but, by itself, it is no proof, for we find often that medicines are capable of producing the same result in very dissimilar ways."

The inquiry into the *modus operandi* of medicines is one of great extent, and beset with many difficulties. "In reasoning as to the probable effects of particular remedies on the human body," says Glassford, in his *Principles of Evidence*, as quoted by our author, "the conditions and circumstances of the latter are so various in different cases, and the number of concomitants which have to be considered in addition to the more obvious facts and symptoms is so great, that the utmost exertion of human sagacity, founded upon the largest induction of particulars which any one mind is capable of embracing and retaining, can do no more than approximate to that real evidence with which the case seems by its proper nature to be susceptible."

In a task at once so extensive and difficult, should it be found that Dr. Headland has failed in its entire and satisfactory execution, he must nevertheless receive our thanks for his zeal and courage in undertaking it; more especially as by the extent to which he has succeeded—the important hints he has thrown out, and his careful collation of the facts bearing directly upon the several points of inquiry embraced in his general subject, he has prepared the way, by following which future labourers may advance still farther in the elucidation of the great problem: In what manner do therapeutic agents act in the removal of disease?

We present the ten propositions laid down by Dr. Headland in relation to the general modes of action of therapeutic agents introduced into the stomach. From these will be perceived the leading conclusions at which he has arrived. They are certainly deserving of a close and favourable consideration, and the last four, to say the least of them, would appear to present a far more accurate basis for the classification of the *materia medica* than any of those previously adopted:—

"*Proposition I.* That the great majority of medicines must obtain entry into the blood, or internal fluids of the body, before their action can be manifested.

"*Prop. II.* That the great majority of medicines are capable of solution in the gastric or intestinal secretions, and pass without material change, by a process of absorption, through the coats of the stomach and intestines, to enter the capillaries of the portal system of veins.

"*Prop. III.* That those medicines which are completely insoluble in water, and in the gastric and intestinal juices, cannot gain entrance into the circulation.

"*Prop. IV.* That some few remedial agents act locally on the mucous surface, either before absorption, or without being absorbed at all. They are chiefly as follows:—

"*a.* Irritant emetics.

"*b.* Stomach anæsthetics.

"*c.* Irritant cathartics.

"*Prop. V.* That the medicine, when in the blood, must permeate the mass of the circulation, so far as may be required to reach the parts on which it tends to act.

"That there are two possible exceptions to this rule:—

"*a.* The production of sensation or pain at a distant point.

"*b.* The production of muscular contraction at a distant point.

"*Prop. VI.* That while in the blood the medicine may undergo changes, which in some cases may, in others may not, affect its influence. That these changes may be:—

"*a.* Of combination.

"*b.* Of reconstruction.

"*c.* Of decomposition.

"*Prop. VII.* That a first class of medicines, called *Hæmatics*, act while in the blood, which they influence. That their action is permanent.

"1. That of these, some, called *Restoratives*, act by supplying, or causing to be supplied, a material wanting; and may remain in the blood.

"2. That others, called *Catalytics*, act so as to counteract a morbid material or process; and must pass out of the body.

"*Prop. VIII.* That a second class of medicines, called *Neurotics*, act by passing from the blood to the nerves or nerve-centres, which they influence. That they are transitory in action.

"1. That of these, some, called *Stimulants*, act so as to exalt nervous force, in general or in particular.

"2. That others, called *Narcotics*, act so as first to exalt nervous force, and then to depress it; and have also a special influence on the intellectual part of the brain.

"3. That others again, called *Sedatives*, act so as to depress nervous force, in general or particular.

"*Prop. IX.* That a third class of medicines, called *Astringents*, act by passing from the blood to muscular fibre, which they excite to contraction.

"*Prop. X.* That a fourth class of medicines, called *Eliminatives*, act by passing out of the blood through the glands, which they excite to the performance of their functions."

The correctness of the first six of these propositions will, we think, be very generally admitted. The last four will probably meet with more opposition; and yet, as the basis of a general classification of remedies, they appear to us to have strong claims to our attention. The greatest difficulty is to decide which of the several articles of the *materia medica* are to be arranged in one or other of these classes. In regard to many, their proper position is very evident; in regard to others this, however, is by no means so readily determined. The difficulty has been felt by Dr. Headland, who has laboured to overcome it with a good deal of skill and some success.

The first class of medicines—*HÆMATICS*—Dr. H., as we have seen, divides into *restoratives* and *catalytics*. With respect to the first, he remarks that what is stated in the general proposition with respect to their action, resolves itself into the following simple affirmations or minor propositions.

"1. That they act in the blood, and that their effect is permanent.

"2. That there are naturally in the blood substances which resemble or coincide with them.

"3. That they are not of necessity excreted, but may remain in the blood.

"4. That they are of use when a disease depends on the want of one or more materials in the blood."

The *restoratives* are divided into six orders.

1. *ALIMENTS*. 2. *ACIDS*. *Mineral*: Sulphuric, hydrochloric, nitric, and phosphoric. *Vegetable*: Acetic, citric, tartaric, and malic. 3. *ALKALIES*—Potash, soda, ammonia, lime, magnesia; their carbonates, and neutral acetates, citrates, and tartrates. 4. *TONICS*—*Alkaloids* and neutral principles—quinia, cinchonia, bebeerine, narcotine, salicine, etc. *Bitter drugs*—cinchonia, quassia, cusparia, gentian, calumba, chiretta, centaurium, meyanthes, rhubarb, hops, elm and willow barks, tansy, wormwood, chamomile, cascarrilla. 5. *CHALYBEATES*—protoxide, sesquioxide, and sesquichloride of iron. Salts of iron, viz: the carbonate, protosulphate, persulphate, phosphate, pernitrate, peracetate, ammonio-citrate, potassio-tartrate, vinum ferri, chalybeate waters. 6. *SOLVENTS*—*Antilithics*. The mineral alkalies, their carbonates, and neutral salts, with vegetable acids. Biborate and phosphate of soda. Benzoic and cinnamic acids. *ANTIPHOSPHATICS*—mineral and vegetable acids. Sour fruits.

The second division of *hæmatics*, the *CATALYTICS*, Dr. H. distributes into eight orders. The statement in the general proposition in reference to these remedies, may be divided, he remarks, into the following minor propositions:—

"1. That they act in the blood, and that their effect is permanent.

"2. That each of itself tends to work out a peculiar operation in the blood.

"3. That the diseases in which they are used depend on certain morbid materials, or actions in the blood.

"4. That the result of the action of a catalytic medicine is in some way to neutralize or counteract some one or more of these morbid processes.

"5. That these medicines are all unnatural to the blood, and must at length pass out of the system."

The eight orders of catalytics, are as follows: 1. ANTIPHLOGISTICS—Antimonials, mercurials, alkalies, salines. 2. ANTISYPHILITICS—Mercurials, preparations of gold, iodide of potassium, sarsaparilla (?). 3. ANTISCROFULITICS—Iodine, bromine, chlorine, iodides and bromides, potash. 4. ANTIARTHRITICS—Colchicum, nitro-hydrochloric acid, lemon-juice. 5. ANTISCORBUTICS—Citric acid, lemon-juice, fresh vegetables, salts of potash (?). 6. ANTIPERIODICS—Arsenious acid, arsenite of potash, alum, chloride of sodium. 7. ANTICONVULSIVES—Preparations of arsenic, silver, zinc, lead, and copper. 8. ANTISQUAMICS—(*Removers of skin disease*)—Preparations of arsenic, sulphur, pitch.

Of the second class of remedies, or NEUROTICS, Dr. H., as we have seen, makes three general divisions: *Stimulants, narcotics, and sedatives.*

The minor propositions in reference to neurotics are thus stated:—

"1. That neurotics are medicines which pass into the blood.

"2. That their action is evidenced by a change in one or more of those functions which are attributed to the nervous system.

"3. That it is necessary that they should pass from the blood to that part of the nervous system which is influenced by them.

"4. That they are of use in an over-excited or depressed state of the nervous system.

"5. That they are transitory in action, and cannot remain in the blood."

The STIMULANTS, Dr. H. divides into *general and specific.*

The general stimulants are, *Mineral substances*: Ammonia and its carbonates, phosphorus. *Animal substances*—Musk and castor. *Vegetables containing volatile oils*—The aromatic labiatae, compositae, and umbelliferae, cloves and nutmeg, cinnamon, cassia, sassafras, rue, barosma, the aurantiaceae, canella, valerian, mustard, cajeput and pimenta, hops, juniper, turpentine, cardamom, onion. *Vegetables containing acrid principles*—Senega, horseradish, serpentary, cascarrilla, pepper, contrayerva, ginger, capsicum, mezereon. *Resinous substances*—Guaiaicum, mastich, olibanum, myrrh, elemi, benzoin, storax, pine resin.

The special stimulants are, strychnia, brucia, toxicodendron, ergot of rye, borax, rue.

NARCOTICS are divided into three orders—*Inebriants, soporifics, and deliriant.* As inebriants, Dr. H. enumerates alcohol, wine, ethers, chloroform, camphor, Indian hemp, tobacco, lobelia. As soporifics—opium, lactuca, hops, nutmegs. As deliriant—hyoscyamus, belladonna, stramonium.

SEDATIVES are divided into two orders—*General and specific.* As general sedatives, are enumerated hydrocyanic acid, creasote, aconite, conium, colchicum, tea, and coffee. As special sedatives—antimonials, ipecacuanha, digitalis.

The third class of medicines are the ASTRINGENTS.

The general proposition in reference to the action of these remedies, Dr. H. divides into four minor propositions:—

"1. That they are medicines which pass into the blood.

"2. That they have the power of causing the contraction of muscular fibre, living or dead.

"3. That their operation is to diminish secretion, to repress hemorrhage, and to give tone to the muscular system.

"4. That these results are to be accounted for by their action on muscular fibre, to which they pass from the blood."

They are divided into two orders—*Mineral and vegetable.*

The *mineral astringents* are, sulphuric, nitric, and hydrochloric acids; acetate and diacetate of lead, sulphate and sesquichloride of iron, alum, sulphate of zinc, sulphate of copper, bichloride of mercury, nitrate of silver. The *vegetable astringents* are, tannic acid, gallic acid, kino, catechu, logwood, oak-galls, rhatany, bistort, pomegranate rind, rose leaves, uvæ ursi, tormentil, and creasote.

The general proposition in reference to the action of the fourth class of remedies, the ELIMINATIVES, is divided into five minor propositions by Dr. H.:—

"1. That eliminatives are medicines which pass into the blood.

"2. That they cannot remain there, but must pass out of the body.

"3. That in so doing, they tend to pass out by some glands more than by others.

"4. That the result of their passage through a gland is to increase its secretion.

"5. That they are of use when the state of the system requires that the function of a gland should be restored or promoted."

The eliminatives are divided into six orders—*Sialagogues, expectorants, cathartics, cholagogues, diaphoretics, diuretics.*

Of sialagogues, mercury is the most important. In some rare cases, salivation has followed the administration of iodine. It is also not an unfrequent symptom of chronic poisoning by lead.

As *expectorants*, Dr. H. thinks that we may class antimony, ipecacuanha, and squill. The chief volatile expectorants enumerated by him are turpentine, camphor, alcohol, ether, and the volatile oils of onions, fennel, assafoetida, caraway, cinnamon, and anise.

Cathartics Dr. H. divides into three groups:—

"1. Mercurials, which tend to increase all secretions. 2. Some resins, oils, and acrid principles, which tend especially to the bowels; and 3. Salines, when given in such an amount that they cannot pass off by the kidneys."

Of *cholagogues*, Dr. H. remarks:—

"We are not well informed as to the exact number of medicines which pass out into the secretion of bile, and act thus on the true eliminative plan. But there is no medicine which is of such great and universal utility in all liver diseases as mercury, in its various forms." "It is probable that alkalies and fatty matters may act in certain cases as true cholagogues, for they are both contained in the natural secretion of bile, and, therefore, likely to pass into it."

Under the head of *true diaphoretics*, Dr. H. remarks as follows:—

"The following groups of medicines may be briefly noticed as tending to act as eliminatives on the glands of the skin. Five divisions may be made:—

"1. Salines and diluents, under certain circumstances. 2. Volatile substances which are soluble in air, as ammonia, volatile oils, and alcohol. 3. Certain acrid matters, as guaiacum. 4. Certain narcotics, as opium and camphor. 5. Antimony, mercury, and sulphur."

The *diuretics* are arranged in four groups: 1. Water, and soluble mineral substances, *i. e.* acids, alkalies, and salines under certain conditions. 2. Acrid matters of various kinds—cantharides, juniper, turpentine, cajeput, copaiba, horseradish. Others of this group contain peculiar vegetable principles, as broom, chimaphila, taraxacum, colchicum, and squill. 3. Alcoholic and ethereal liquids. 4. The minerals which increase all secretions, as mercury, antimony, and iodine.

"There are," Dr. H. remarks, "two chief actions for which diuretics may be required. They may be used: (1) to eliminate solid materials from the blood; (2) to promote absorption, by diminishing the amount of fluid in the blood. It is easier to employ the first than to exert the second of these operations."

The foregoing sketch will enable our readers to form some idea of the views advanced by Dr. H. in the dissertation before us. The leading outlines of his theory of the action of medicines is no doubt correct, though it will probably be found that he has not always succeeded in applying it to explain the entire *modus operandi* of certain articles of the materia medica. We recommend the work as one replete with information on a subject in relation to which there has heretofore been too much vague conjecture and hypothetical speculation. From a careful perusal of Dr. H.'s treatise, the practitioner cannot fail to derive many hints in reference to the therapeutic action of the leading remedial agents calculated to divest their employment of much of the empiricism by which it is now characterized, and at the same time to render their curative operation more prompt and certain.

D. F. C.

ART. XXIV.—*Elements of Chemistry, for the Use of Colleges, Academies, and Schools*. By M. V. REGNAULT. Illustrated by nearly seven hundred woodcuts. Translated from the French, by T. FORREST BETTON, M. D., M. A. N. S., and edited, with Notes, by JAMES C. BOOTH, Melter and Refiner U. S. Mint, and WILLIAM L. FABER, Metallurgist and Mining Engineer. Philadelphia: Clark & Hesser. 2 vols. 8vo.

THE above work, in its American dress, is comprised in two large octavo volumes, and printed in larger type than is usually applied to works of this class. The author, although young in years, has acquired for himself, by his investigations in chemical and physical science, a reputation for accuracy, industry, and skill, which renders very acceptable every offering he may make towards the improvement or extension of knowledge. The author, in presenting to the public his *Elements of Chemistry*, has used the term chemistry in its most restricted sense, considering the phenomena only which result in a total change in the constitution of matter, and hence has entirely omitted those subjects (heat, light, &c.) which strictly belong to physics, but which, from their close relation, are usually considered as necessary preliminaries to the study of chemical science. In this arrangement, the subjects usually treated of under caloric, viz: distillation, congelation, solution of solids and gases, and density of gases, and polarization of light and gases, are introduced under appropriate heads, wherever the operations are requisite.

The introduction commences with a short account of chemical affinity, and the laws by which it is regulated; the physical characters of matter are next considered, and full attention devoted to the principles of crystallography, and concludes with chemical nomenclature and notation. On account of the great and increasing importance of its relations to chemical theory, the subject of crystallography is explained in detail, and systems of crystallization, with the connections of their different axes, copiously illustrated by woodcuts, which are well adapted to aid in conveying correct ideas on the most abstruse points, and facilitate its study. In chemical nomenclature, the most common form of expression is adopted, and the notation used is in conformity with this view.

The elements themselves next come under consideration, and, for convenience, are arranged into two groups, metalloids and metals; and after the treating of any individual substance, the combinations it may form with preceding elements, are noticed, an exception, however, being taken with regard to the compounds of carbon, which are deferred to the organic part of the subject. The metalloidal elements themselves are brought under notice in a succession corresponding to the extent of their natural distribution and chemical importance.

The illustrations of the operations necessarily conducted in the laboratory are such as would enable any one to arrange for himself the apparatus necessary to learn practically the methods of preparing and collecting the gases, liquids, and solids, and investigating their properties, and to understand the operations as carried on on a large scale by the manufacturer. Very considerable attention has been bestowed on the applications of chemistry to the arts and sciences; and, in the remarks introductory to the metals, an illustrated explanation of the constitution of the crust of the globe, the changes produced by successive upheaval and subsidence, the formation of metallic veins and their general relations, afford interesting subjects for contemplation. The metallurgy of the principal metals, and the modes of testing the ores, are introduced under their appropriate heads, together with the various products to which they give rise. The last part, or organic chemistry, is set forth in the order which, until lately, has been usually adopted—commencing with organic analysis, the extensively diffused immediate principles of plants, gum, starch, sugar, &c., and the changes they undergo through the action of various agents; there succeeds an account of organic acids, alkalies, neutral principles, essential oils, &c.; products of dry distillation, fats, organic colouring matters, followed by a consideration of animal products, and their relations; and, in conclusion, the applications of the

facts set forth to practical purposes, in fermentation, sugar-refining, bone-black manufacture, dyeing, tanning, &c.

The translation of the work is of a creditable character, and throughout has exhibited a freedom from idiomatic expression, which it is difficult to avoid in transferring ideas from a foreign language, especially in a long work, where their constant recurrence is apt to leave a strong impression on the mind. The American edition is indebted to the editors for many valuable notes, among the larger of which may be noticed the employment of waste heat of furnaces, refining of gold at the United States Mint, and paired organic compounds and compound radicals, each distinguished by the editor's initials. R. B.

ART. XXV.—*Principles of Organic and Physiological Chemistry.* By CARL LÖWIG, Ordinary Professor of Chemistry in the University of Zürich, &c. Translated by Daniel Breed, M. D., of the U. S. Patent Office. Philadelphia: A. Hart, 1853. 8vo. pp. 481.

THIS work, intended as a text-book for professors and their classes, presents a very condensed, systematic abstract of scientific organic chemistry, as far as present research has enabled them to be arranged, according to their intrinsic relations. In translating this work, Dr. Breed has rendered great service to the American student of chemistry. Having been a pupil of the author, he had acquired, by familiar intercourse, facilities which enabled him to accomplish his task in a very successful manner.

The *Principles* contain within itself nearly all that is known in this department, and much which has not yet found its way into systematic treatises. The work is divided into two parts: a general part, which treats of the constitution and formation of organic bodies, with the constitution of organic radicals; and the latter, of the different compounds, arranged systematically in several classes and groups, according to their presumed relation and probable constitution.

The immense number of organic products formed from few elements, and the great dissimilarity of properties, associated with apparent similarity of composition, has given rise to the inquiry as to the modes by which these results have been brought about. The author has adopted the theory of radicals, or the idea that compound bodies may act the parts of roots or starting-points from which more complex forms may be produced by union with others, either elements or compounds, and, at the same time, has kept in view the substitution of elements which may take place without change of type; which, with its extension in the nucleus theory, has been considered as opposed, but which, from recent investigations, appear to be consistent with each other, and which the author has endeavoured to reconcile.

Whatever may be its ultimate fate in the progress of investigation, the arrangements and views presented at present afford much insight into the nature and construction of organic bodies, and rational explanation, in a comprehensive, and, at the same time, simple view, of the very numerous compounds which result from the union of but few elements. Thus, the class of hydro-carbonyls give the starting-point for many compounds, and as under these views they may be considered as formed in two parts, one of which may be passive and the other active, each performing the part of a compound element in the same way that an elementary body does in inorganic compounds. It thus becomes easy to understand the difference of properties, when we can perceive a difference in the internal arrangement of the parts entering into the construction of the whole. Several compounds having the same ultimate composition may thus be referred to entirely different groups, the essential character of each group affording means to trace their relations; as, for example, a body may be derived from members composed of $C_{12}H_8$, and be a compound of Benzol, the proximate composition of which is expressed by the formula, $2 C_2H_2.C_6H$; or of Phenol,

$C_2H_2(C_2H_2, C_6H)$; or of Niceyl, $2 C_2H_2, C_6H$; the difference of the arrangement into compound elements clearly giving difference of properties.

The special part is distributed under seven heads: 1. Hydro-carbyls, compound of carbon and hydrogen, as radicals; 2. Carbyls, carbon as a radical; 3. Azo-carbyls, carbon and nitrogen compounds; 4. Hydro-azocarbyls; 5. Hydrils; 6. Complex organic substances; 7. Products of decomposition.

Under these heads all the organic compounds are distributed, and a copious index gives its aid in any research after the names of compounds, while the arrangement of the table of contents, in which the constitution and composition is given, facilitates reference, when the composition is known or the object interests.

The study of the work will well reward the investigator, and create in him a desire for the speedy appearance, in an English dress, of the large work now being revised by the author, and of which this is a compend. R. B.

ART. XXVI.—*The Maternal Management of Children, in Health and Disease.* By THOMAS BULL, M. D., etc. etc. Second edition. Philadelphia: Lindsay & Blakiston, 1853. 12mo. pp. 424.

WE are pleased to see a second edition of this very sensible treatise. Were it generally circulated among mothers, and could they be induced to study with care and carry out in practice the excellent precepts inculcated by the author in reference to the management, during health and disease, of their offspring, much good would result. Even if nothing more were effected by the sound practical teachings of the author than the banishment from the nursery of the numerous errors and prejudices in regard to the physical and dietetic management of infants and children which there still prevail, the work would prove a blessing to every family, and save its youthful members from much temporary discomfort, and not a few evils, the effects of which are too often experienced throughout every portion of their future lives. Even the second part of the work, devoted to the proper management of children in disease, is well calculated to diminish domestic quackery, and to warn the mother to seek, in the incipient stages of the several diseases incident to this period of life, competent medical advice. The author, in his remarks in regard to these diseases, while he communicates much that it is important parents should be familiar with, has very skillfully avoided the dangerous error of leading them into the belief that, without the aid of a skilful physician, the maladies of infancy and childhood can be properly and safely managed. D. F. C.

ART. XXVII.—*Dr. Hooper's Physician's Vade Mecum; or, A Manual of the Principles and Practice of Physic. Considerably enlarged and improved, with an Outline of General Pathology and Therapeutics.* By WM. AUGUSTUS GUY, M. B. Cantab, &c., author of "Medical Jurisprudence," &c. With Additions, by JAMES STEWART, A. M., M. D., Fellow of the College of Physicians and Surgeons, author of "A Practical Treatise on the Diseases of Children," &c. Philadelphia: Barrington & Haswell, 1853. 12mo, pp. 541.

THIS belongs to a class of works of the beneficial tendency of which we have more than once expressed our doubts. We cannot entertain the hope expressed by its author, "of its proving useful to students, and those practitioners in medicine who, from their professional occupations or other circumstances, may not have it in their power to consult the more voluminous works that have contributed so much to the improvement of medicine." That, in its present form,

with the additions it has received at the hands of its English and American editors, it presents a very fair outline of "the principles and practice of physic," is admitted. But, nevertheless, an outline so brief and general, that it can afford but little aid to the student in indoctrinating him into even the principles of physiology, general pathology, and therapeutics—the semeiology and diagnosis of diseases and their therapeutical management, or to serve the practitioner as a work of reference in cases of doubt and emergency.

To the student, works of the character of the one before us may, to a certain extent, prove useful, as simple remembrancers, when, in his own mind, he passes over the several branches of medical science to which his attention has been directed, with the view of determining his proficiency in each. When employed solely with this intent, the outline presented by the manual, if it be accurate and distinct, as is generally the case in the one before us, cannot be too brief and general. It is by his facility in filling it up, so as to form the more or less complete picture, that the student is to test the progress he has made in the acquisition of the different branches of his medical studies.

Unfortunately, however, the manual is too apt to be seized upon by the lazy student, as his sole text-book—as the ready road to the acquisition of knowledge as superficial as it is evanescent.

D. F. C.

ART. XXVIII.—*Practical Observations on Aural Surgery, and the Nature and Treatment of Diseases of the Ear.* With Illustrations. By WILLIAM R. WILDE, F. R. C. S. I., Surgeon to St. Mark's Ophthalmic Hospital, &c. Philadelphia: Blanchard & Lea, 1853. 8vo. pp. 475.

THIS volume reached us at too late a period to afford an opportunity for a careful examination of it, and to enable us to designate its peculiar merits. In our next number we propose to give an extended notice of it. In the mean time we may state that the great attention which Mr. Wilde is known to have devoted to diseases of the ear, his extensive experience in this class of affections, and the marked ability displayed in the various papers he has from time to time published in the journals, in relation to them, afford a sufficient guarantee that his present work will be a valuable contribution to our literature, and that he has succeeded in the object he has proposed, viz. "to expose error, and establish truth; to lay down just principles for an accurate diagnosis of diseases of the ear; to rescue their treatment from empiricism, and found it upon the well-established laws of modern pathology, practical surgery, and reasonable therapeutics."

This work will, we are sure, commend itself to the favourable attention of the profession.

QUARTERLY SUMMARY
OF THE
IMPROVEMENTS AND DISCOVERIES
IN THE
MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Structure of Tissues*.—There is in *Virchow's Archiv*, v. 270, an interesting paper by Dr. F. HOPPE, on certain chemical researches into the anatomical structure of various tissues. These are based upon the fact that animal structures which can be exposed to the action of water boiling under a pressure of three atmospheres, for several hours, without being dissolved, are not of gelatinous character. In this way a mechanical analysis of the tissue can be made, the gelatinous part is dissolved away, and the cells are demonstrated, by their resistance to the action of the boiling water, to be perfectly distinct from the intercellular matter, to have non-gelatinous walls of their own, and thus to be in all cases more than mere cavities in the surrounding tissue.

Small portions of cartilage, inclosed in glass bulbs, were boiled under high pressure in a Papin's digester. The intercellular substance was dissolved, and the cells could be detected by the microscope, floating free and uninjured in the fluid. Elastic fibro-cartilage, treated in the same way, gave a like result; all was dissolved except the fibres and the cells, which were found free in the solution of chondrin; disproving Mulder's dictum, that "the cells of fibro-cartilage yield chondrin on being boiled."

Bone was next examined; the earthy matter having been removed by a weak acid, small fragments of the animal matter were boiled, as above described. All was dissolved except the cells, which were found, as in the other cases, in the fluid, with portions of the canaliculi still connected with them. Our author concludes that the corpuscles and canaliculi of bone are no mere hollows or canals in the tissues, but have independent walls of their own, containing no gelatinous matter, and distinguished from the surrounding bone substance, exactly as the cells of cartilage are from the seemingly structureless matter in which they are imbedded. Our readers cannot fail to be interested in this experiment, taken in connection with the facts respecting the structure of bone which we recorded in a former number. Dentine, submitted to the same ordeal, underwent changes precisely analogous to those observed in bone; and Hoppe concludes, respecting tooth substance, also, that the tubes and fibrillæ which it contains possess walls of their own, of a smooth, thin membrane, containing no chondrin. Other tissues consist of cells alone, without intervening matter; and, in general, the tissues of the vertebrata may be arranged in two classes: 1. Those which consist of cells and intercellular matter, as areolar tissue, cartilage, fibro-cartilage, bone, and tooth; 2. Those which consist of cells alone, as epithelium, muscle, nervous and elastic tissues. This division holds chemically, anatomically, and also physiologically; since the first class compose the supports of organs, the latter the organs themselves.—*Assoc. Med. Journ.* Aug. 5, 1853.

2. *Development of the Teeth.*—A very interesting paper on this subject has appeared in the third number of the *Journal of Microscopical Science*, p. 149, from the pen of Mr. T. H. HUXLEY. Our readers are doubtless aware that the dentine, or proper substance of the tooth, is usually supposed to be formed by ossification of the cells of the pre-existing pulp, and consequently by layers added *within*; while the enamel is considered to be superimposed on it *from without* by a secreting layer, the "enamel organ," folded over the crown of the tooth. This account Mr. Huxley contradicts; the main object of his paper being to prove that the dentine is formed, not by ossification of the pulp, but rather by a process of deposition in, or on its outer layer, and that the supposed "enamel organ" has no function such as that attributed to it, the enamel being separated from it by a membrane (the persistent capsule of Nasmyth) and formed, in some manner not yet explained, on the surface of the crown of the tooth. An analogue of this he finds in the dermic bones of the skate, where there is distinct enamel, and no "enamel organ" whatever; and he brings out the fact by actual observation of the teeth of man.

If a young tooth capsule be opened, it will always be found that a space filled with fluid exists between the inner surface of the capsule and the outer surface of the pulp. The two are perfectly free from all adherence to one another; the only substance between them, besides the fluid, being a more or less abundant whitish matter, which sometimes adheres to the one and sometimes to the other. If the tooth be very young, a structureless membrane may be traced over the whole surface of the pulp; and it is not at all difficult to trace this in perfect continuity on the inner surface of the walls of the capsule.

The whitish substance, just mentioned as lying in the closed sac formed by the membrane so reflected, is delicate, friable, composed of cells, and, in short, is plainly the altered epithelium of the reflected membrane; it is this layer of epithelium which has been dignified with the name of "enamel organ," and invested with the function of secreting or forming the enamel.

Mr. Huxley next proceeds to inquire into the relation of the dental tissues to the tooth-capsule.

If a very young tooth, say from a foetus of the seventh month, be carefully examined, especially after the addition of acetic acid, under the microscope, the thin cap of tooth-substance may be seen to be everywhere covered by a very delicate membrane, evidently continuous with the reflected capsule described above; and the *enamel fibres* can be distinctly seen *under* this delicate membrane; making it of course obvious, that the so-called enamel organ, being *above* the membrane, can have no such function as that attributed to it. Between the dentine and enamel no trace of membrane can be found.

The next question examined into is that to which we have already alluded—the exact mode of formation of the tooth-substance from the tooth-pulp.

The dental substance, our author holds, is not formed by simple ossification of the cells of the pulp (Nasmyth), but is deposited within the pulp in definite masses, the gaps between which eventually constitute the dental fibres, *parenchymate materiam suppeditante* (Raschkow).

When the ossifying boundary of a tooth-pulp is examined, it is seen that where dentification has not begun, the membrane so often mentioned is in immediate contact with the substance of the pulp, which is composed of a homogeneous transparent base, in which closely arranged nuclei are imbedded. Passing towards the ossifying edge, we see in the profile view a clear, more strongly refracting layer, gradually increasing in thickness, which begins to separate the proper substance of the pulp from the investing membrane, and is the young dentine, as transparent as glass, and at first quite structureless in appearance. No trace of "nuclei" can be seen in it; the bodies which have been described as such being, according to Mr. Huxley, simply lacunæ, and being afterwards found to form the canals of the dentine. He "believes that these facts afford sufficient demonstration that the pulp is *not* converted directly into the dentine; and that the structure of the latter does not depend upon the calcification of pre-existing elements."

In a morphological point of view, the relations of the *cement* show it to be homologous with the enamel. In a very beautiful section of a human tooth

from Mr. Busk's cabinet, the upper portion of the cement exhibits in places a very distinct transverse striation, resembling its perfect enamel; and in the tooth of a young calf the transition of the one structure into the other was well shown. The enamel and the cement, therefore, according to Mr. Huxley, are formed on the surface of the dentine, not by the "enamel organ," but in some way which he does not explain. Is it not possible, that not the epithelium, but the very membrane itself, is the agent?

In conclusion: the tooth-pulp being a protrusion of the dermic tissue of the gum, and the capsule an involution of the same, the reflected membrane is the analogue of the basement-membrane of the mucous lining of the mouth, and the "enamel organ" merely its epithelium, inclosed in the sac formed by the involution of the capsule.

The teeth, therefore, are true dermic structures, and are analogous to the hairs.

3. *Development of the Blood-globules.*—MOLESCHOTT¹ has lately been conducting a series of observations on the splenic and cardiac blood of frogs after excision of the liver. The first effect of excision of the liver is a striking diminution in the quantity of the blood, inducing a sort of chlorosis. The colourless corpuscles are much increased in relative quantity, the proportion in the cardiac blood being (average of many observations) 1 white to 2.24 coloured; while in healthy frogs it is 1 to 8. In the blood of the liver, the proportion was 1 to 5.88. The same diminution of the coloured corpuscles, after ablation of the liver, was observed also in the abdominal blood and in that of the "fat body." In the spleen, the quantity of the coloured corpuscles was found reduced by more than half, so that, in consequence of the smaller number (only about one-sixth) of coloured corpuscles naturally present, the quantity of colourless corpuscles under these circumstances exceeds that of the coloured.

From these experiments, it follows that the liver is an organ in which the conversion of colourless into coloured corpuscles goes on to a great extent.

Frogs deprived of the spleen show a slight increase in the relative proportion of the coloured to the colourless corpuscles. Frogs deprived of both liver and spleen present, in proportion to the colourless, four times fewer coloured corpuscles than in the natural state.

In the *conversion of colourless cells into coloured*, the author states that the nuclei separate into two or three smaller ones, and these into granules; the granules become coloured, and dissolve; and thus coloured cells without nuclei are produced. At the same time, the round form of the colourless is gradually converted into the elliptical one of the coloured. This change of form takes place sometimes before, sometimes after the cleavage of the nucleus.—*British and Foreign Medico-Chirurgical Review*, July, 1853, from *Müller's Archiv*, i. 73.

4. *Structure and Function of the Spleen.*—There are still numerous opinions almost constantly being advanced on the structure and function of this complicated organ. Buk² supposes that the colourless corpuscles of the blood which are to be changed into the coloured ones, are formed in it. This takes place by the passage out of the twigs of arteries ramifying on the Malpighian vesicles of an organizable lymph, which thus gets into the lymphatics. (He believes the Malpighian corpuscles to communicate with the lymphatics.) Here the first developed elements of the blood, the colourless corpuscles, are formed; part being transferred to the lymphatic vessels, and part to the veins. Thus the venous blood contains an important component not found in the arterial.

TIGRI,³ in a paper reprinted from an Italian medical journal, and written in order to vindicate his claim to priority over Asson and Kölliker, in their researches on the function of the spleen, reasserts, as the results of his micro-

¹ Müller's Archiv, 1853, i. 73.

² Illust. Med. Zeitung, Munich, 1852, vol. ii. No. 8.

³ Schiarimenta sulla struttura e sulla funzione della milza del Prof. A. Tigri. (Est. dalla Gazzetta Med. Ital. Toscana, tom. iii. ser. 2.)

scopic and other investigations on the spleen of men and animals, the following conclusions:—

The spleen is an organ which nature has destined to preside over the material composition of the blood. It receives into its vessels blood loaded with solid matters for elimination; these are the used-up epithelial cells and red globules, which are assimilated in it, and reduced into new principles of nutriment.

1. The anatomical elements of the spleen are blood and lymphatic vessels, to which are united the Malpighian corpuscles, the fibrous structure, the microscopic web, and the splenic fluid.

2. That it is not credible that the vessels of the spleen (looking at their size as compared with that of the organ) are destined only for its nutrition.

3. This is confirmed by observing that in other organs in which the blood has to undergo a modification there exist two orders of afferent vessels, *i. e.* the pulmonary and bronchial arteries for the lung, the hepatic artery and portal vein, for the liver.

4. Similarly, these two orders of vessels must be recognized in the spleen: the first comprises the nutrient vessels; the second, those which carry into the venous system the blood loaded with eliminable materials.

5. The special conformation of the splenic venous canal of ruminants, visible from the point of their entrance into the organ, has reference not only to the form of the canal, but also to the structure of its walls.

6. To the form, which is cylindrical, but irregular from hollows and projections, to which he gives the name of splenic productions.

7. To the structure, inasmuch as the parietes of the veins are formed by the red substance of the organ, together with a most subtle and transparent membrane, which divides it from immediate contact with the blood.

8. This membrane, organized like that of the capillaries, performs the office of a filter, and gives passage to the red globules of the blood, which are rendered inactive as well as the epithelial bodies.

9. This structure, so visible in the large venous trunks of the spleen of ruminants, is verified also in that of the horse, pig, and lastly, in the human spleen.

10. The communication between the arteries and veins of the second category, by the intervention of a capillary system, is effected by channels so ample as to permit the easy passage of bodies as large as the one-third of a millimetre.

11. The spleen pulp otherwise is not a dense liquid, but an assemblage of fusiform nucleated cells, involuted or folded on themselves, isolated nuclei, and red blood-globules, which elements are contained in a most delicate areolar web.

12. The presence of the Malpighian bodies is undoubted.

13. The structure of the spleen presents no resemblance to the cavernous bodies.

14. The microscopic web, with its areolæ, is in direct communication with the venous cavity, by the porosities of the stratum limiting the isolated or confluent splenic productions.

15. The same web is in communication with the lymphatics.

16. The epithelial bodies!! detached from the walls of the vascular system, and mixed with the circulating blood, are brought by the artery into the splenic tissue, in which there is every reason to believe that they are arrested.

17. The same happens to the worn-out blood-globules.—*British and Foreign Medico-Chirurgical Review*, July, 1853.

5. *Capillaries of the Liver*.—MR. RAINY writes to the editor of the *Journal of Microscopical Science*, p. 231, as follows:—

"In the last part of Todd and Bowman's *Physiological Anatomy*, a doubt is expressed concerning the nature of the ultimate passages through which the blood circulates in the liver. Whether the smallest bloodvessels of this organ are true capillaries; that is, are possessed of a single tunic like other vessels of this description, or whether the blood passes along mere spaces or channels formed by the hepatic corpuscles, so as to be in actual contact with their cell-walls, is regarded by these authors as a question yet to be decided.

"Having at this time in my possession a portion of injected human liver, in which I have no difficulty in showing the smallest capillaries, and in demon-

strating their tunic, the following observations will, I hope, be considered worthy of a place in your valuable Journal; first, because any doubt proceeding from such high authorities cannot fail to unsettle a point of minute anatomy which the microscope has satisfactorily established; and secondly, because the supposed fact of mere blood-channels existing in the liver, whilst true capillaries are demonstrable in other glands, seems to depart too widely from a general law to have even the sanction of probability in its favour.

"The examination necessary to show the capillaries of the liver is best made on a very thin slice of injected liver, taken from a part where the injection begins to fail; but, before examining this section, it must have been submitted to a gentle current of water, in order that the biliary corpuscles may be entirely washed away from the meshes of those capillaries which project from the thinnest part of it.

"In respect to their structure, these capillaries differ but little from those of other parts. Their caliber in the liver I have always observed to be very unequal, arising most probably from the manner in which they are compressed by the corpuscles which lie in immediate contact with their walls, and fill up the areolæ produced by their numberless inosculations. Their average diameter is about 1-3000th part of an inch. Their tunic is remarkably thin and transparent. The meshes are generally circular or oval, and about 1-1000th of an inch in diameter.

"The difficulty of displaying the capillaries of the liver, I believe to arise from the close connection of the hepatic corpuscles with their walls (there being in this organ no visible basement-membrane), and the extreme fragility of the latter; so that the means employed to remove the corpuscles from the meshes of the capillaries will break away the vessels also. This, I think, will not be so likely to take place if the part have been kept a few days before being examined, and be treated in the manner above described."—*Assoc. Med Journ.* June 3, 1853.

6. *Temperature of the Blood.*—The results of former investigators on the difference in temperature between arterial and venous blood, have shown that there is usually a difference of about .5° C. in favour of arterial blood, comparing generally the jugular and the carotid, or the opposite ventricles of the heart. A series of extensive and very accurate researches made by LIEBIG,¹ son of the renowned Munich Professor, have shown, on the contrary, that venous blood is warmer than arterial under all circumstances, the average of the maxima and minima being .07° to .19° C. The experiments, which were made on living or recently-killed animals, were conducted in the following way: A dog was killed, and a ligature tied tightly round the neck, to prevent the lungs from collapsing. In this way, as the pulsations of the heart lasted a short time longer, some of the blood would be arterialized by the air in the lungs, and some arterialized blood would therefore always be found in the left side of the heart. The thorax was then opened, by as small an opening as possible, the aorta tied at its bend, and the vena cava superior close to the auricle; then, the dog being raised, and the ligatures drawn upwards, in order to make the opening in the vessels at the highest point, thermometers were passed into the two ventricles down the artery and vein. After the introduction of the thermometers, cotton-wool was placed in the opening of the thorax, in order to prevent any real difference between the temperature of the blood occurring from the difference in the thickness of the two ventricles. In the experiments conducted on living animals, thermometers were introduced by the carotid artery and jugular vein into the heart.

The conclusions that may be drawn from these experiments may be divided into three heads:—

1. The difference of temperature between the two kinds of blood.
2. The temperature at different parts of the same system.
3. The changes of temperature at one and the same level of the arterial or venous system.

¹ Liebig, Georg, Ueber die Temperaturunterschiede des Venösen und arteriellen Blutes, Giessen, 1853.

1. As to the difference of temperature between the two kinds of blood. In the experiments on the recently-dead animal, the temperature of the blood in the right ventricle was found once higher, and twice equal to that of the left. The temperature of the blood in the ascending cava was found $.72^{\circ}$ C. higher than in the carotid. In the experiments on the living animal, in which the temperature was constant, that of the venous blood was found constantly higher than that of the arterial by $.07^{\circ}$ to $.19^{\circ}$ C. on an average of the minima and maxima.

2. As to the differences in temperature of the venous blood at different parts of the circulation. The temperature of the blood in the large vessels coming from the head and extremities, rises as we approach the vena cava inferior, in which the blood reaches its highest temperature. This change does not reach a high value for small distances in the vena cava superior, but is rapid in the auricle, where the mixture of abdominal blood is greater. A similar rise is observed in the iliac vein. The temperature of the venous blood of the extremities is far lower than that of the vena cava inferior, or the right heart. The differences in the arterial blood are far smaller; they are not even appreciable at less than 6 cm. from the heart.

3. As to the changes of temperature at one and the same level of the arterial or venous system. The temperature in the veins varies regularly in inspiration. This is observable in the larger venous trunks of the chest and belly, except the vena cava inferior. In the superior cava, the rise takes place at the end of inspiration; it reaches its highest point in the interval, falls at the end of expiration, and is at its lowest point after expiration.

Maximum.	Minimum.	Maximum.	Minimum.
Inspiration	Expiration	Inspiration	Expiration

— Inspiration — Expiration — Inspiration — Expiration — Inspiration.

The oscillations in regular breathing are from $.07^{\circ}$ to $.10^{\circ}$ C. These oscillations are thus explained. In inspiration, the pressure of the diaphragm and abdominal viscera causes an increased flow of blood from the vena cava inferior into the right ventricle, which overpowers the stream from the vena cava superior; while in expiration, the flow of blood occurs towards the vena cava inferior, and its exit is impeded. The exit of blood from the vena cava inferior is also impeded, but not to so great an extent. Now the blood of the inferior cava being warmer than that of the superior, it follows that the blood in the right ventricle will be found warmest just after inspiration. Their maxima and minima will be found at different periods of inspiration, in different parts of the circulation, according to the period at which the stream of blood reached them. —*British and Foreign Medico-Chirurgical Review*, July, 1853.

7. *Observations on the State of the Blood and the Bloodvessels in Inflammation.* By T. WHARTON JONES, F. R. S. (Proceedings of the Royal Medical and Chirurgical Society, June 7, 1853.)—The author, after alluding to the objections raised by some observers to the conclusions respecting the character of the inflammatory process in mammifera, from experiments upon cold-blooded animals, refers to his observations upon the pulsation of veins, as seen in the circulation of the wing of the bat, and published in the *Philosophical Transactions*. He affirms that there will be found similarity in the inflammatory process in the two classes of animals, and that with proper precautions we may accept the information afforded by microscopical examinations from both. He then describes at some length the effects produced upon the circulation by the complete division of the bloodvessels. An artery, on being cut across, becomes constricted upwards in the direction of its trunk, and downwards in the direction of its ultimate ramifications; and so far as this constriction extends the flow of blood in the vessel is arrested. In a minute or two, relaxation of the wall of the artery, and dilatation of its bore, are observed to take place, and then we find that in the upper part of the artery the flow of blood becomes re-established as far down as the first considerable branch proceeding from it above the place of section. Below the wound, a retrograde current is kept up in the cut artery, through the medium of an anastomosing vessel, but this retrograde stream passes

off in a direct channel by branches leading from the artery. The retrograde stream flows more or less sluggishly, and the blood is loaded with red corpuscles. The author has not found veins become constricted after section, like arteries. In the upper segment of a divided vein, there is no farther flow of blood up to the first considerable branch which joins the vessel above the wound. From the vein below the place of section, the blood which enters in a natural direction by one set of radicles flows out in a retrograde course by another set. Internal clots are formed by accumulation of blood within the cut ends of the artery. The effect on the circulation of the part to which the divided vessels lead is, the blood in the last arterial ramifications, in the capillaries, and in the venous radicles, flows tardily, and becomes loaded with red corpuscles, which aggregate together. In some of the vessels there takes place actual stagnation of the aggregated corpuscles. This effect is explained by the circuitous route which the blood has to follow through anastomosing branches to arrive at the last arterial ramifications; the blood-corpuscles are allowed to aggregate in consequence of diminished *vis à tergo*. The author believes that inflammatory redness may depend upon two causes—a stagnation of the blood, as commonly described, and also upon an increased rapidity of the flow through dilated arteries. He mentions the effect of the division of the ischiatic nerve in promoting the disappearance of inflammatory redness in the web of the frog's foot, by causing a yielding of the coats of the arteries, and an increase in their caliber. He believes that this depends upon the section of the filaments of the sympathetic nerve.—*Lancet*, June 25, 1853.

8. *Phrenic Nerve*.—The following are LUSCHKA's conclusions respecting this nerve:—

"1. The phrenic is not merely a motor nerve, but a mixed nerve, containing sensory filaments distributed to the pleura, pericardium, and the peritoneum, covering the diaphragm, and on the anterior wall of the belly. It is also distributed to the coronary and suspensory ligaments of the liver.

"2. It brings about a double interchange of fibres between the sympathetic and spinal nerves, since organic nerve-fibres go to it from the inferior and occasionally the middle cervical ganglion, and it gives, by its abdominal portion, fibres to the solar plexus.

"3. In the majority of cases, the phrenic arises but from one cervical nerve—the fourth.

"4. The diaphragmatic branches he traces to the tendinous centre, the inferior vena cava, the right auricle, and the liver.

"5. In its course over the pericardium it appears to be endangered in diseases of the pleura and lungs, especially tubercular. Hence, probably, some of the disturbances of respiration in these complaints."—*British and Foreign Medical-Chirurgical Review*, from *Schmidt's Jahrbuch*. iii. 1853.

9. *On the Physiological Uses of the Ganglionic Nervous System*.—Dr. DAVEY read a paper on this subject before the Medical Society of London, the principal object of which was to prove the independency of the organic nervous system, and, what is more, the dependency of the integrity of the cerebro-spinal system, in common with all the organism, on it. To prove his position, Dr. Davey brought forward a variety of facts, more or less startling, and these, selected with much apparent care, seemed to tell much in favour of the physiological views insisted on. After some preliminary remarks, intended to show the unsatisfactory and contradictory opinions expressed by our most popular writers on medicine (physiology), viz. Wagner, Todd and Bowman, Carpenter, and others, concerning the ganglionic nervous system, he affirmed, on the authority of many good names, that the ganglion of the sympathetic nerve are those parts first formed in the foetus, and that this same fact obtains equally, it was premised, through the whole animal kingdom. The early organism of birds was referred to in confirmation of that opinion, which assigns to the solar ganglion and its dependencies an existence anterior to any other part of the animal fabric. Especial reference was made to the two monstrosities recorded by Mr. Lawrence and Dr. Marshall Hall. The first of these it is known was born without a brain,

but with the spinal cord complete; but the second, still more wonderful, was born without either a brain or a spinal cord. Dr. Davey argued that if in the latter instance the functions of secretion, absorption, &c. were duly and efficiently executed or performed without any aid from a cerebro-spinal system, then was this latter in no instance either requisite or necessary in any way to the integrity of such functions in the animal economy. The ganglionic nervous system, said he, is perfect at birth, and its functions are also perfect; this is completely organized, whilst the brain is nothing more than a mere pulpy mass, without any kind of function or use to the individual in possession of the same; the one is in active and unceasing operation, the other is but a blank, doing nothing, useless; the ganglionic nervous system executes its function instinctively, whereas the brain, if not the spinal cord, requires time and experience, and direction, ere it perform its functions, either for good or for evil. Dr. Davey compared the monstrosity of Dr. M. Hall, organically considered, to the lower classes of animal life, the medusariæ; these, he said, performed functions of an instinctive and preservative character, executed those functions only which are strictly vital, such as secretion, absorption, nutrition, and so on; and therefore was it to be inferred, and most fairly and logically, that these same animals were possessed of a sympathetic nervous system and none other; the nervous organism of both the amyecephalous monster and the zoophyte was precisely similar, and their animal functions were on a par. As a farther illustration of the opinions advocated, he cited some rare examples of vivisections performed by himself with the view of testing anatomically the relative importance of the ganglionic and cerebro-spinal nervous centres. It was shown that in frogs and fish both the brain and spinal cord may be destroyed, and that nevertheless all the strictly vital functions will continue to be carried on as before. These animals, it was observed, offered peculiar facilities for the performance of such experiments, from the peculiarity of their respiratory apparatus; but, added the author, you have only to establish an artificial respiratory process or function in the higher order of animals, *i. e.* those who breathe normally with the aid of a complex set of nerves and muscles, for that which is purely natural, and then may the spinal cord and brain be destroyed with an almost equal impunity, so far as the said vital acts are concerned in them. The phenomena of sleep and disease were referred to as offering strong and corroborative evidence of the physiological opinions insisted on; and, in so far as the latter is concerned, Dr. Davey mentioned that the wards of any lunatic asylum would afford many instances of individuals who were reduced to a mere vegetative or organic existence by disorder affecting the brain and spinal cord; such patients, he said, lived oftentimes many years with their cerebro-spinal organism so disorganized as to be perfectly useless to them; unconscious; without feeling, emotion, or desire; void of thought; without hope, joy, or passion; lost to all normal sensation, or perhaps without feeling of any kind, and incapable of only the most imperfect motive power; enfeebled; paralytic; they nevertheless digest, secrete, absorb, in a word, carry on, year by year, the strictly vital functions, exactly as the malorganized fetus does; exactly as the frog or fish, deprived of the brain and spinal cord, did; and exactly as the polypus is in the habit of doing. He then referred the Society to the experiments of Sir B. Brodie, performed many years since, for the purpose of proving that those nerves having a cerebro-spinal origin had no kind of influence on the reparation of injuries, and so on. Frogs, guinea-pigs, and dogs were the subjects of Sir B. Brodie's experiments; and it was found that the destruction even of the lumbar spinal cord, much less that of the crural and sciatic nerves, neither retarded nor impaired in any way the reparative process in the lower extremities; thus wounds and fractures made in the limbs so deprived of cerebro-spinal nervous influence healed and united as readily and completely as under all ordinary circumstances. Dr. Davey explains the facts recorded by Sir B. Brodie, by saying that the ganglionic nervous power was necessarily left intact; and this it was which caused the wounds to heal and the fractures to unite; and insisted on it, that although great and serious injuries to the brain and cord were borne with impunity, and for the reasons above stated, yet were such altogether impossible in so far as the solar ganglion and its dependencies were concerned. It was very truly

said, that a comparatively feeble blow on the epigastrium over the solar ganglion would destroy life; and that it was a very common thing among boys to suffer greatly from slight and accidental blows taking effect on the pit of the stomach; and the great danger of physical violence, even in a slight degree, to the epigastrium, was well known to the prize-fighting gentry, who forbade the combatants to strike below the sternum; and if, as the author asserts, the solar ganglion be the seat of life, the *locale* of the *impetum faciens* of old writers, the irritability, the motions without force, of Haller, then can we easily account for the facts just cited. Instinct and animal heat were treated of by Dr. Davy as specific functions of the sympathetic nervous system; but our space will not allow us to do more than thus allude to this part of his paper.—*Lancet*, June 25, 1853.

10. *Additional Experiments on the Excitability of paralyzed and healthy Limbs by the Galvanic Current.* By R. B. TODD, M. D.—(Transactions of Royal Medical and Chirurgical Society.)—In the summer of 1847, Dr. Todd submitted to the Society the results of experiments tried with the view of testing the accuracy of Dr. M. Hall's dogma, that limbs paralyzed by lesion of the brain became more excitable than the healthy ones by the galvanic current, in consequence of an increased irritability of the paralyzed muscles. The present communication comprises the results of experiments to determine the difference on the influence of the current according to its direction, and also to ascertain whether any real difference of physiological effect exists when the galvanic trough, or the magneto-electric or electro-dynamic machine, is used. Thirteen healthy individuals were subjected to experiment, and with the following results:—

1. That the obvious physiological effect was produced only on completing, or on interrupting, the galvanic circuit.
2. That more vigorous contractions were excited on the completion than on the interruption of the circuit.
3. That the completion or the interruption of the direct current produced more vigorous contractions than the completion or interruption of the inverse current.

These experiments were made with a Cruikshank's battery, charged with very dilute sulphuric acid. The magneto-electric rotation instrument and the coil machine (electro-dynamic) were afterwards used, and it was found that the same effects precisely were produced, and the same variation in the intensity of the contractions, according as the current was direct or inverse. Fifteen cases of hemiplegic paralysis, caused by lesion of the brain, are afterwards detailed. The results of the galvanic experiments on these cases were as follows:—

1. That of the fifteen cases, in only three was there any approach to a greater excitability of the paralyzed than of the sound limb, and that in two of these it was manifested only under the influence of the inverse current.
2. That in three of the cases, both the coil machine and the battery were used, and with precisely the same results; and that, in one of the cases, the coil machine alone was used, and with a result which corresponded with those obtained in similar cases by the galvanic battery.
3. That in each of the three cases in which a greater excitability existed in the paralytic limbs, the paralyzing lesion in the brain was more or less of an irritative kind. In one case, the irritation was probably connected with an incipient process of cicatrization.

4. That in many of the experiments all degrees of galvanic power were used, and with no other difference than that of degree; the amount of physiological effect being exactly proportionate to the power of the galvanic stimulus.

—*Med. Times and Gaz.* July 30, 1853.

11. *Intermediate Nerve between the Portio Dura and Portio Mollis of the Seventh Pair.* (Communicated to the Association of the College of Physicians.) By JOHN GASON, M. D.—Since the time that Wrisberg discovered the existence of an intermediary nerve between the portio dura and portio mollis of the seventh pair of cerebral nerves, there have existed between anatomists and physiologists widely different opinions as to the functions, distribution, and nature of that

nerve. Perhaps this difference of opinion may be owing chiefly to the want of sufficiently exact anatomical examination of this nerve; therefore, to put into a clearer light so important a subject, Dr. Malaguti commenced fresh investigations and observations on the brain of a calf, with the intention of arriving at, in consequence of the greater development of the parts, less uncertain and doubtful results. So great is their importance that they are given without abbreviation.

Malaguti having laid bare the thick fibrous sheath which was formed of the external layer of the dura mater which incloses the fascial as well as the auditory nerve; having cut and separated each of those nerves the one from the other, he was then enabled to observe some nervous filaments, which, as he says, owing to the reddish-gray colour with which they were furnished, presented the most lively contrast to the snowy whiteness of the nerves among which they were placed, and terminated in two distinct roots, one of which was found to be connected with the auditory nerve, the other with the facial by means of some slender branches, and as they extended as far as the free extremity of the seventh, where they were cut, so they appeared to be continued in a similar manner into the substance of the brain.

At first, says Malaguti, I was unwilling to believe what I saw, being doubtful whether these supposed roots, instead of belonging to the intermediary of Wrisberg, were not rather radical filaments of the seventh pair; but afterwards I was convinced that my first opinion was the true one, as, in addition to the different colour that they presented, I fully satisfied myself that, converging one to the other, they were lost in an elongated gangliform body, analogous to the geniculated ganglion that is met with in the human body. This peculiar reddish-gray colour, like the filaments above mentioned, is composed of a great number of the most delicate nervous fibres, intimately joined together by a swollen network rich in bloodvessels. Having laid bare the ganglion from the fibrous sheath that bound it up, together with the facial within the Fallopian aqueduct, it was found that the first was placed simply over the second, that in colour it was very different from the latter, and that, being curved, it formed a sort of network round the nerve alluded to, where it is reflected in order to enter the aqueduct. The ganglion in its superior extremity was found in immediate contact with the two roots above mentioned, under which, for the space of nearly half a line, the ganglion gave off a distinct branch, which, together with the auditory nerve, penetrated within the labyrinth, which having reached, it is probable that it, with the auditory nerve, is distributed over the membranous apparatus of the labyrinth. But what particularly riveted my attention (continued the illustrious anatomist) was to see above this singular nervous apparatus that, from the convexity of the ganglion, which we shall call the geniculated, and from the side of the same which looked towards the fifth pair of cerebral nerves, there issued a thick branch very analogous to the cranial vidian, which is seen in the human species, and which, without having any other connection with the facial nerve, issued from the Fallopian aqueduct, to be lost, after a short course, in a thick fibro-cartilaginous membrane, which almost deprived me of the hope of seeing the termination of it. My investigation was, however, crowned with success, for having overcome the difficulty, I was but a short time in tracing it into a ganglion of the great sympathetic, to which it directly joined itself without sending off by the way any branches to the adjacent parts. Concerning that ganglion of the great sympathetic, I must not neglect mentioning that it gave off anteriorly a branch to the orbits, in connection, if I mistake not, with the sixth pair of cerebral nerves, and another inferiorly, which appeared as the continuation of the cranial vidian running to the superior cervical ganglion along the great sympathetic. The geniculated ganglion, then, in its inferior extremity, is divided into three thick branches of the same reddish-gray colour, which were very apparent on the bend of the facial; but as they descended with this nerve through the aqueduct, they gradually separated, so as to form with the fibres of the communicating a very complicated network. Making an attentive examination, then, of the inferior extremity of the ganglion alluded to, Malaguti discovered a plexus of threads in intimate connection with the communicating nerve of the face, from which

plexus some branches were given off, which at different distances were lost in the facial, and one of which only he was able to trace distinctly down from the firm sheath as far as the auricular branch of the vagus, with which it formed a true anastomosis. Finally, between the auricular and the communicating, he saw directly extended a nervous filament, which he could not decide on whether it was given off from the auricular to the communicating, or *vice versa*; although, judging from the preceding anastomosis, and from the ashy colour which characterized it, he had reason to consider it to be one of a great many branches of the geniculated ganglion which united in descending with the fibres of the facial. He was enabled also to satisfy himself that the geniculated ganglion existing on the bend of the facial, sent out of the aqueduct two branches, one of which anastomosed with the common trunk formed by the union of four filaments, which arose from the superior cervical ganglion of the intercostal; whilst the other, which was more delicate, and followed a longer course, formed an anastomosis with the first branch that issued from the superior cervical ganglion, at a few lines distance from the same ganglion.

From these investigations and anatomical observations, strengthened by clever arguments, and by the most profound and extensive physiological and pathological knowledge, Malaguti draws the following conclusions:—

1. That the nervous apparatus, as seen in the calf between the portio dura and portio mollis of the seventh pair of nerves, having colour, structure, form, and distribution, altogether different from that which the collateral nerves offer, it follows, as a consequence, that it ought to be considered separate and distinct from these.

2. That as the intercostal nerves are in communication with the seventh pair, and the intermediary is in connection with the latter, and as the geniculated ganglion has not the characters of compound ganglions, and as it is in communication with the great sympathetic, it may lawfully be placed in the class of nerves pertaining to organic life.

3. That as the intermediary offers a plausible explanation of the sympathy that exists between the viscera of the thorax, as well as those of the abdomen, with the organ of hearing, and with the brain, and *vice versa*, on account of the connection which it has with the sympathetic and with the par vagum, it must therefore be considered as a branch from the intercostal continued into the brain.

4. Finally, as the nerve of Wrisberg cannot be considered, against the opinion of Morganti, as a nerve of sensation identical to the posterior roots of the spinal nerves, it may with more probability, be considered as a nerve of organic life, belonging directly to the most manifest centre of the nervous system.—*Dublin Med. Press*, June 15, 1853.

MATERIA MEDICA AND PHARMACY.

12. *Sugar of Milk as an Article of Food in Consumption and other Pulmonary Diseases.* By JAMES TURNBULL, M. D., Physician to the Liverpool Royal Infirmary.—Those who are familiar with Liebig's works are aware that he established, several years ago, the fact that all the various substances used as food belong to one of two classes—the azotized, or plastic, which form the tissues of the body, and replace the worn-out tissues; and the non-azotized, or combustible, which furnish food for the lungs, supporting respiration and animal heat. Now, it is a curious fact, which he also established, that, though the fibrin, albumen, and casein, which constitute the chief of the first or azotized class of alimentary substances, exist in vegetable as well as animal food, animals have not the power of forming in their own bodies any of those azotized alimentary principles. They are primarily derived from the vegetable kingdom; and the digestive organs of animals have no power of producing them, but merely of assimilating what has been already formed by plants, or previously drawn

from the vegetable kingdom by some other animal. These views met with considerable opposition when they were first advanced; but their correctness is now generally admitted, and there is no essential difference in the chemical composition of fibrine procured from vegetables and that obtained from the flesh or the blood of an animal, or between vegetable and animal albumen or casein.

Of the other class of alimentary substances—the non-azotized—the chief use of which is to supply food for respiration and the support of animal heat, the principal are starch, sugar, oil or fat, and alcoholic liquors. These unite with the oxygen absorbed at the lungs, and are the chief source of the carbonic acid and watery vapour given off by these organs. They are, in fact, burnt by a process of slow combustion, which is the great source of the high temperature of animals.

It appeared to me that, as this function of the lungs must necessarily be more or less impeded in all pulmonary diseases, and as cod-liver oil had been found so beneficial in that particular disease, consumption, advantage would be gained by selecting from this, the non-azotized or combustible class of alimentary substances, such of them as would have the greatest tendency to unite readily with the oxygen absorbed at the lungs; and thus, in the disabled condition of these organs, to facilitate the performance of their functions.

I was thus led to inquire which of the non-azotized or combustible class of alimentary articles are most readily digested, and have the greatest affinity for oxygen. Sugar of milk is an article belonging to this class of aliments, which possesses these properties in a high degree, and is deserving of more attention than it has yet received as an article of food. I shall therefore state a few facts respecting it, which seem to me sufficiently interesting to be worthy of being brought under the notice of the profession.

There are three principal varieties of sugar—cane sugar, milk sugar, and grape sugar. They are closely allied in composition, though they differ considerably in chemical properties. All kinds of milk contain sugar of milk; but it is worthy of notice that asses' milk, which has always had a greater reputation than any other kind, as an article of food in consumption and other pulmonary diseases, contains the largest proportion, relative to the caseous and oleaginous principles, of any kind of milk. Whey, which consists almost entirely of sugar of milk, has also been found a useful article of diet in consumptive cases.

When we inquire into the chemical properties of milk sugar, we also find that it has so strong an attraction for oxygen, that, when dissolved with an alkali, it has the power of reducing more or less completely some of the metallic oxides. It is readily absorbed into the blood, which, being an alkaline fluid containing oxide of iron, furnishes the necessary conditions for its oxygenation. Besides this, its composition is such, that it must be readily converted into carbonic acid and water. There is only one other point in relation to its fitness to supply material for respiration, which I shall at present notice. It is the fact, originally pointed out by Liebig, and now admitted by physiologists, that one of the great offices of the liver is the preparation of combustible material for the respiratory process. This is a point which has not been sufficiently kept in view by medical men; but it is one of great practical interest, when we consider that the function of the lungs and that of the liver are so intimately connected and mutually dependent, that derangement of the secreting function of the latter must necessarily interfere with the former, and may not improbably be one of the chief causes of a tubercular state of the blood. The liver prepares the combustible materials for respiration; and of this there are two sources, one being the worn-out tissues of the body, the hydrocarbonaceous part of which forms bile, and, being reabsorbed, is consumed at the lungs; the other is the saccharine and fatty matters of the food, which are consumed in a similar way. It would seem, however, that the liver has not only the power of preparing the latter, but also of forming saccharine at least, if not oleaginous matters, from the blood. A defect in this power may be one of the great causes of tubercular diseases; and if we can, by giving a ready-formed oil, which is stored up at certain times in the liver of the codfish, rectify to a

great extent any defect in its action, so far at least as the oleaginous material for respiration is concerned, there is good reason to expect that still more may be gained by giving, in a ready-formed state, the other combustive material, the saccharine.

The facts I have brought forward have led me to use sugar of milk in the treatment of consumption; and, as I have seen benefit from its use, I wish to recommend it as an article of food deserving of more attention in the treatment of this disease than it has yet received. I believe also that they embrace an important principle, applicable to the dietetic treatment of other diseases.—*Assoc. Med. Journ.* June 24, 1853.

13. *Raw Meat and recent Blood as Therapeutic Agents.*—In the diarrhoea of young children, connected with anæmia, M. Trousseau prescribes raw meat, finely chopped and slightly salted. He attributes the medicinal properties of raw meat to the iron and manganese contained in the fresh blood. The *Presse Médicale Belge* says that in Belgium it is a common custom, in some diseases, to drink bullock's blood in the morning before breakfast, while still hot, in increasing doses. Persons suffering from hæmoptysis, and exhausted by hemorrhage, are said to rally rapidly by taking every morning half a pint of blood in the slaughter-house, before it cools. It is said that children take the blood readily, but that adults loathe it.—*Association Medical Journal*, June 17, 1853.

14. *Transfusion of Blood.*¹—In this memoir, Dr. POLLI collects twenty-three cases in which the operation has been practised in the ordinary way, that is, with human blood. In five of these death happened, either because the operation was too late, or because death was about to happen from some independent and inevitable cause; in all the rest life was saved—in many, from the very jaws of death. In no one case did the operation give rise to any serious inconvenience. The majority of the cases were those of parturient females, reduced to death's door by flooding; the rest, those of persons suffering from other kinds of hemorrhage, induced upon the hemorrhagic diathesis.

Dr. Polli also enumerates some cases in which the blood of animals was successfully substituted for that of man. Four of these are on the authority of M. Denis, who wrote his *Lettres sur la Transfusion* at Paris in 1667. Another is taken from an Italian work by Dr. Manfred, of Lucca (*De Nova et Inaudita Medico-Chir. Operatione*, &c., Romæ, 1668). Another, by MM. Lower and King, from the *Gaz. Médicale de Paris*, p. 65, 1848. The particulars of the last two experiments are not given, and we are only told that the blood of a lamb was employed in the one, and that of a calf in the other, and that the result was successful. The particulars of M. Denis's experiments are as follows:—

Exp. 1. M. Denis took ten ounces of blood from the arm of a strong and healthy butcher, aged forty-five, and injected through the same opening twenty ounces of the arterial blood of a lamb, after which the butcher, without any alteration in his manners and feelings, proceeded to kill and dress the animal which had furnished the blood, and then went to the public house to dispose of the gratuity which had been given him by the operator. The next day, according to his own account, he felt in better health than usual, and he underwent the same operation with the same results.

Exp. 2. Nine ounces of the arterial blood of a lamb were injected into the arm of a youth, aged sixteen, who had suffered during two months from fever, and who, from this cause, and from having been bled twenty times, lay in a moribund state, when he immediately calmed and slept, and this rallying eventuated in complete recovery.

Exp. 3. A madman of eight years' standing, whose madness showed itself in attacks of complete restlessness and wakefulness of eight or ten months' duration, was treated by transfusion in the fourth month of such an attack. Ten ounces of blood were abstracted, and six ounces of the arterial blood of a calf injected in their stead, with much relief to the symptoms. Afterwards, a

¹ Recherches et Experiences sur la Transfusion du Sang; par le Dr. Polli. *Archiv. Gén. de Méd.* Oct. and Nov. 1852.

pound of the same blood was injected. The immediate result of the second transfusion was vomiting, purging, and sweating. These ended in sound sleep, which brought about a favourable crisis, for from this time the patient continued to improve until he was quite well.

Exp. 4. The patient in this experiment was lethargic, convulsed, and almost pulseless, in consequence of a violent and protracted attack of vomiting and purging. M. Denis injected eight ounces of blood (of what animal is not stated, when the convulsions ceased, the pulse rose, the consciousness returned, the bystanders were recognized and spoken to, and some food was taken. This state continued for twenty-four hours. The transfusion was then repeated, but the vomiting and purging returned, and the patient sunk eleven hours afterwards. Serious intussusception of the small intestine was found after death.

The conclusion to which Dr. Polli arrives is that the operation of transfusion is simple, efficacious, and safe. He recommends it not only in cases of excessive hemorrhage under ordinary circumstances, but in cases where there is a strong hemorrhagic diathesis, as likely to produce a beneficial change in the crisis of the blood. He recommends it also in cases of extreme inanition, where there is not time to introduce food in the ordinary way, or strength to digest that food. He suggests it as a possible means of inducing a beneficial change in the constitution of the blood in chlorosis, rachitis, scrofula, and insanity; and he thinks that defibrinized aerated arterial blood might prove to be a powerful means of resuscitation in cases of asphyxia and other kinds of apparent death.—*Half Yearly Abstract*, vol. xvii.

15. *Objections to the Use of Chloroform.* By SAMUEL BEECROFT, Esq.—Since the use of chloroform has become so general, and so much is written in our periodicals in its praise, and so little against its use, I hope that I shall escape the charge of presumption in venturing on the following remarks.

I would first state my doubts of its use being beneficial in any case, when we know that its effect in lulling pain is produced at the expense of the blood being poisoned by the introduction of an excess of carbon; under which state there is great disposition to the production of local congestion. I appeal to common sense, if a patient in this condition, and undergoing an operation, is so likely to do well as one in whom it has been the care of the surgeon to keep the blood as healthy as possible.

For my part, I feel sure that convalescence cannot be so certain when chloroform is used as when the blood is free from its poisonous agency. But some will say that we have evidence to the contrary, in the fact of patients constantly making rapid recoveries when this anæsthetic agent has been used, and I cannot deny that such recoveries do take place. But we know that a great many would recover if they were rendered insensible with alcohol; but we should not like to risk operating under these circumstances; and we find a great analogy in the action of spirituous drinks and chloroform. Death is produced by large and rapidly administered doses of each; and we find in both instances, after death, the same congestion of vital organs.

I have frequently used chloroform, and I confess that I have never seen it the means of accelerating the convalescence, as is stated by some. How can rendering the blood impure cause a rapid recovery? The supposition is absurd. I have, however, often seen headache, sickness, etc., produced by it for some time after its use; and I have the impression that in some cases I have read, where death has occurred a few days after operating, it might in some measure have been owing to the chloroform.

The last two cases in which I used it were hydrophobia and dislocation of the humerus into the axilla of seven weeks' standing. In the case of hydrophobia, the patient was certainly quieted by it, but he died in less than twenty-four hours after the first active symptoms of the disease set in; and in all the cases I have read, where it has been used, this disease appears to have run its course very rapidly. In the case of dislocation, although we put the patient in great jeopardy, by the chloroform causing convulsions followed by stupor, under which the muscular system was completely powerless, we yet failed in the re-

duction; and if I were again to fail after bleeding, etc., in reducing a dislocation, I should have no hope of succeeding with chloroform. I give these two examples, as this agent has been so strongly recommended in the treatment of similar cases.

Having attended a good share of midwifery, and having been frequently called on by my medical friends to operate, I may be allowed to state that I have never seen one case of labour in which I should desire, or think it right, to use chloroform; even when instrumental or other aid was required. I would nearly as soon, in natural labour, see my patients tipping themselves into patience, as produce this condition by repeated small doses of chloroform.

Although, probably, my opinion is not worth much, as to its use in operative surgery, from the small number of capital operations I have had, yet I do not speak altogether without data; for I have occasionally operated, and assisted in operating, in cases of hernia, amputations (one at the shoulder joint), lithotomy, etc. I am sure it has been far more satisfactory to me to see patients, although suffering, in their senses, than to be annoyed by constant anxiety lest some untoward circumstance should occur from the chloroform. I also think that the recoveries were rendered more certain by not using it.

I observe that in the last number of the *Association Journal*, Dr. Snow writes, with his accustomed ability and moderation, "On the Administration of Chloroform during Parturition." He does not, however, conclusively prove to my mind that the supposed ill effects resulting from the use of chloroform, in the cases which he has been candid enough to bring forward, did not arise from its use. I cannot think that any one can be out of danger, although it may not be perceptible to us, who has inhaled two ounces and a half of the vapour of chloroform. Unfortunately, although, in commencing its administration, we may intend to give small doses only, yet, if the desired effect be not produced, we are apt to go on until sufficient has been used to become dangerous.

With respect to the action on the fœtus, of chloroform inhaled by the mother, most writers agree that the child is influenced by it. If this opinion be correct, another objection arises against its use; for assuredly we have no right to run the risk of permanently injuring the offspring, that we may relieve the temporary sufferings of the mother.—*Association Medical Journal*, June 17, 1853.

16. *Tannate of Quinia and Tannate of Cinchonia*.—These vegetable alkaloids are at present attracting attention in France. They are described as being less unpleasantly bitter, and as equal or superior in therapeutic power to the common preparations of quinia and cinchonia. M. Barreswil communicated last year, to the Academy of Medicine in Paris, the processes by which he obtained these tannates; and BUCHNER, a German pharmacologist, describes an extremely simple method of manufacturing tannate of quinia, which is given as follows in the *Annals of Pharmacy*, for June, 1853, p. 169:—

"Cinchona bark, roughly powdered, is to be treated with six times its weight of common or household vinegar. After it has macerated during twenty-four hours, it is boiled, then decanted, and the residue is treated afresh with more vinegar. These several decoctions are to be mixed together, and filtered when perfectly cold; and to them is to be added an infusion of gall-nuts so long as a precipitate is formed. This precipitate is to be collected on a filter, to be then washed, and, lastly, to be carefully dried.

"Although the tannate of quinia prepared in this manner is not absolutely pure, and therefore requires to be given in larger doses than the sulphate of quinia; yet Buchner considered this preparation as particularly to be recommended, both on account of its cheapness in comparison with the more expensive drug, sulphate of quinia, and also from the simplicity of its manufacture, on account of the facility with which it may be prepared in almost all pharmaceutical establishments."—*Association Medical Journal*, June 17, 1853.

17. *Hæmostatis*. By M. SEDILLOT.—The *Eau de Pagliari* consists of tinct. Benzoes ℥viii; alum ℥i; water ℞x. This preparation, which has a pale straw-colour, and is transparent, possesses an extraordinary power of coagulating blood.

Eau de Rabel, consisting of acid. sulphur. 100 parts; alcohol, 300 parts. The acid should be poured upon the alcohol slowly.

Baume de Compingt has not yet been analyzed, but appears to contain an empyreumatic oil.

Eau de Hepp is a modification of the *Eau de Pagliari*.—*Med. Times and Gaz.* Sept. 10, 1853.

18. *Administration of Ether in Capsules*.—In the *Journal de Médecine et de Chirurgie Pratiques* for April, 1853, M. CLERTAN, of Dijon, states that he has for some time been accustomed to give ether in capsules in nervous affections. After several years of observation, by himself and others, he concludes that ether, when introduced in a known dose, pure, and without loss, into the stomach, has an effect which was totally unknown until the preparation of the ether pearls (*perles d'éther*). According to the old plan, the ether became partly volatilized before passing half-way down the œsophagus; and what arrived in the stomach was dissolved in water, and in a state favourable to rapid and sudden volatilization. M. Clertan has several times seen neuralgia, hemicrania, and gastralgia arrested instantaneously by from one to three of these capsules; while ether draughts, and ether in syrup, had been largely given without any effect.

The editor of the *Union Médicale* for April 12, in noticing M. Clertan's preparation, states that the ether capsules are already employed extensively by M. Trousseau, M. Pidoux, and other practitioners in Paris. The advantages of the capsules are:—

1. The ether can be administered in a known dose—each capsule containing four or five drops.

2. The capsules are inodorous; so that ether can, without their knowledge, be given to persons to whom its smell is repulsive.

3. The capsules permit neither evaporation nor decomposition of the ether; they may be kept a year at least, or indefinitely, according to M. Clertan.

4. The ether arrives in the stomach without irritating the membrane of the mouth or pharynx, or producing cough; and it produces its sedative action by its rapid absorption.—*Assoc. Med. Journ.* Sept. 2, 1853.

19. *Mode of preparing the Concentrated Solution of Perchloride of Iron*.—In our last No., page 216, we noticed the method proposed by M. Pravaz, for coagulating the blood in aneurismal tumours, by means of a solution of perchloride of iron. The following is the method for preparing this solution as given by M. BURIN DE BUISSON, pharmacien, of Lyons:—

Take of sulphate of iron of commerce (emerald colour), two pounds; water, six pounds; pure iron filings, the fifth part of a pound; sulphuric acid, half an ounce: put the whole into an enamelled cast-iron vessel, and leave the latter upon the sand-bath until gas is no longer given off; filter, add to the fluid half a pound of liquid hydrosulphuric acid, and allow to rest for twelve hours. Put, after that time, the solution upon the fire, boil for half an hour, and filter. To the filtered liquid add six ounces and a half of pure concentrated sulphuric acid; and place the mixture into an enamelled cast-iron vessel, which should be but half filled. Boil, and add, in small quantities, pure nitric acid, until it causes no longer the escape of red fumes. Remove the vessel from the fire, add to the fluid twenty-five or thirty times its weight of cold water, and the whole of the iron will be precipitated in the state of peroxide by the addition of a slight excess of ammonia. Wash the precipitate by decantation with pure water a great many times, and dry it in the air by spreading it in thin layers upon linen.

This dry and pulverized oxide is then calcined to redness in a large and shallow iron vessel, so that the temperature may not rise too high. This is the martial saffron of the shops, which is, in fact, pure peroxide of iron when prepared as above.

The perchloride of iron is then obtained in the following manner: Take of the peroxide of iron, resulting from the process just described, six ounces and a half; pure and white hydrochloric acid, two pounds; mix, and allow the action to go on without fire for five or six hours; then put the vessel on a water-bath,

and boil until the almost complete solution of the oxide is obtained; this should be done in a porcelain capsule, weighed beforehand. The liquid is decanted to separate the undissolved oxide, and the former is carefully evaporated upon the water-bath, constantly stirring, to the consistence of thick syrup, which is then weighed. Half this weight of distilled water is then added, the heat is kept up for a few moments, and the whole is thrown on the filter. The capsule and the filter should now be washed with a quantity of water equal to that used in the last place, and to the first fluid obtained, as much of the second is added, to get a mixture of the density of from 43.5 to 44 degrees.

By proceeding in this manner a very limpid fluid is obtained, with a slight acid reaction, but perfectly pure, having reached the maximum of saturation, and always identical. It may be kept without any of the salt being thrown down, provided the bottle be well stopped; the colour is dark-brown when the liquid is looked at in full, and of a greenish-gold colour when held to the light, or seen in a thin stratum. Five or six drops of this fluid, mixed with the white of an egg diluted with six drachms of water, are sufficient to coagulate the whole into a mass in the space of fifteen seconds. This mass firmly adheres to the bottom of the glass when the latter is turned up, and takes a pretty long time before it slowly drops, when the watery parts begin to run off, as the serum separates from coagulated blood.

At the meeting of the Surgical Society of Paris, held May 4, 1853, M. Debout presented the two carotids of a horse, into which perchloride of iron had been injected. In one of these vessels, for the distance of two inches, the artery being held by the fingers above and below, only six drops of the perchloride had been thrown. The clot formed had, however, been redissolved by the current of blood, and carried into the torrent of the circulation. The lining membrane of this vessel was healthy, except a small spot where an abscess was about to form. In the other carotid, fifteen drops of the perchloride had been injected for two inches and a half of its length, the upper and lower part of this length of artery being also compressed by the fingers. This vessel remained plugged all the time the animal lived. On a *post-mortem* examination, the whole length of the clot was found adherent to the parietes of the artery, the lining membrane being the seat of a suppurative inflammation. The vessel was quite obliterated, both above and below, in consequence of adhesive inflammation.

In a subsequent meeting, M. Debout gave a minute description both of the experiment and of the *post-mortem* appearances, and concluded that M. Pravaz, the discoverer of this property of the perchloride, was right in advising injections of very small doses. M. Debout very properly added that compression of the artery above the sac (as proposed and carried out by Dr. Bellingham, of Dublin) should be resorted to as an adjuvant of the injection, as there is a tendency in the blood remaining free in the artery to break down the clot formed by the perchloride. The author of the paper mentioned a case of aneurism at the bend of the elbow, following venesection, in the sac of which coagulation was obtained by a continuous galvanic current; compression of the vessel was neglected, and a week after the formation of the clot the latter was destroyed and washed away by the force of the arterial circulation.—*Lancet*, June 18, 1853.

20. *Ferruginous Collodion*.—Having observed the utility of the salts of iron in erysipelas, M. ARAN, to facilitate their application, combined them with collodion, forming a preparation which united the compressive and astringent effects. It consists of equal parts of collodion and Bestuchef's tincture (ethereal tincture of perchloride of iron). Spread on the skin, it forms a somewhat thinner pellicle than ordinary collodion, but it is much more supple and resisting, so that the limb can be moved in any direction without the cracking which takes place when collodion alone is used. Its adhesion is also more prolonged.—*Brit. and For. Med.-Chir. Rev.* July, 1853, from *Bull. de Thérapeutique*, t. xlv.

21. *Trisnitrate of Bismuth adulterated with Arsenic*.—This medicine, so valuable in many forms of dyspepsia and diarrhoea, is often so carelessly prepared as to contain a quantity of arsenic more than sufficient to interfere with its therapeutic action, and to produce most unpleasant consequences. The *Annals*

of *Pharmacy* (January, p. 23) quotes the following remarks of M. CORNUT, who has followed up the researches of M. Lassaigne: "The bismuth commonly employed in the preparation of the trisnitrate of bismuth, contains a notable quantity of arsenic, and, to obtain a pure product, it is indispensable that the metal should be submitted to the process of roasting; and yet the manufacturers frequently neglect to perform this operation. For this reason, he thinks that the pharmacist should never dispense this substance without having first tested it, and especially when it is prescribed in large doses. He gives a process, at once simple and easy, for detecting arsenic. Moisten half a drachm of the trisnitrate of bismuth with a sufficient quantity of pure sulphuric acid, evaporate to dryness in a small porcelain capsule, wash the residue with a little distilled water, filter, and put into a Marsh's apparatus. A very simple one may be constructed, by passing a tube, drawn out to a point at one end, through the cork of a four or five ounce bottle. Care must be taken to use materials of absolute purity, and not to apply the light too soon, or an explosion may take place."—*Association Medical Journal*, June 17, 1853.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

22. *On Smallpox and Vaccination; Analytical Examination of all the Cases admitted, during Sixteen Years, at the Smallpox and Vaccination Hospital, London; with a View to illustrate the Pathology of Smallpox, and the Protective Influence of Vaccination in Degrees varying according as the Vaccination has been perfectly or imperfectly performed.* By J. F. MARSON, Resident-Surgeon to the Smallpox and Vaccination Hospital, London.—During the period comprised within this analysis, smallpox had been epidemic four times—in 1838, 1844, 1848, 1851; and rather more than half of the patients admitted into the hospital had been previously vaccinated. Much anxiety about the degree of security afforded by vaccination had begun to be felt, and the author thought the profession would be interested, and much useful information perhaps might be elicited, by classifying and arranging the patients admitted during the above-named period. The analysis referred principally to the following points:—

- I. Natural smallpox.
- II. Smallpox after smallpox.
 - a. After natural smallpox.
 - b. After inoculation.
- III. Smallpox after vaccination.
 - a. Number of cicatrices.
 - b. Character of cicatrices.
 - c. Vaccinated, but without cicatrices.
- IV. Febrile eruptive diseases mistaken for smallpox.

A remarkable difference was observed between the vaccinated and unvaccinated patients, and also between the vaccinated cases themselves—some patients having the smallpox in a mild form, wholly devoid of danger, whilst others had it in great severity, scarcely if at all lessened by the previous vaccination. Under these circumstances the author thought that the causes of this remarkable difference might be sought for among the antecedents in respect to the vaccination of each individual admitted, with a view to explain the extreme mildness of some cases—the danger, unmitigated course, and even death of others. Smallpox in the unprotected remains to this day as virulent as it ever was. Vaccination, when performed in infancy, affords almost complete security against the fatality of smallpox up to the period of puberty; and the general experience of the Smallpox Hospital shows that smallpox did not usually occur after vaccination until several years had elapsed. The most trustworthy

evidence of the perfection of vaccination was to be obtained from the cicatrices, and this evidence he would be able to show was a very good guide to the general amount of protection conferred by vaccination.

The analytical series consisted of six tables. The first table showed the number of patients admitted at the hospital in each year, distinguishing males from females, whether vaccinated or otherwise, and gave the outline of the disease under which each was suffering; it included 185 cases of febrile diseases, principally eruptive but not variolous, and it furnished the result of the whole, with the rate per cent. of the mortality. The second table gave an analysis of all the cases of smallpox, 5,797, classed under nine different headings, the form of the disease in each case, and the result, with the rate per cent. of mortality under each division. He there gave the ages of the unprotected patients, and the rate per cent. of mortality calculated at different periods of life, for every five years up to thirty, and even ten years afterwards. The fourth table exhibited, separately, the leading particulars of 3,094 cases of smallpox after vaccination, showing from a careful examination of each patient, the number and character of the vaccine cicatrices, the form of the variolous disease and the result, with the rate per cent. of the mortality from smallpox after deducting the cases of superadded disease. It also showed the rate of mortality from smallpox in patients having one vaccine cicatrix, particularizing whether good or indifferent, and the average. The fifth table showed, in quinquennial periods, the ages of the vaccinated patients when attacked by smallpox, when they were vaccinated, and the rate of mortality. The sixth table stated, in periods of five years, the ages of the patients at the time they were vaccinated, who had subsequently been admitted with smallpox into the Smallpox Hospital. Observations on the results accompanied each table; and in relation to Table IV., it appeared that 3,094 patients with smallpox, reported themselves to have been vaccinated at some period of their lives. 1,357 had one vaccine cicatrix, and of these four and a quarter per cent. died with a good cicatrix, and twelve per cent. with an indifferent cicatrix; mean, seven and a half per cent. 888 had two cicatrices; two and a half per cent. died with good cicatrices, seven and a quarter with indifferent cicatrices; mean mortality, four per cent. and a fraction. 274 patients had three cicatrices; average mortality, one and three-quarters. 268 patients had four cicatrices; and there died with good cicatrices under one per cent.; with indifferent cicatrices, none, the average being only three-fourths of one per cent. The author described a good vaccine cicatrix as distinct, foveated, dotted or indented, in some instances radiated, and having a well or tolerably well-defined edge. An indifferent cicatrix as indistinct, smooth, without indentation, and with an irregular and well-defined edge. The author's opportunities of examining, with regard to previous vaccination, the foreigners admitted with smallpox at the hospital, and comparing them with each other, and with the same class of persons in this country, had led him to the conclusion that vaccination was performed in the best manner generally by the Danes, Swedes, Norwegians, and Germans, judging them by the standard shown in Table IV., to afford the most efficient security. Then came the Italians; and from the few he had seen, the Spaniards; then the Scotch; then the Irish, and, lastly, the English and French. He was most anxious to draw the attention of his professional brethren to the above fact. There must exist some grave and lamentable evils (more especially affecting the humbler classes) connected with the circumstances under which vaccination in country districts was performed. The details recorded in this paper should urge our provincial brethren, whose position and ability gave them influence, to lend their aid to trace the evil to its root; for there could be no justifiable reason why the rural inhabitants of England and Wales should be far less well vaccinated than were the rural inhabitants of Denmark, Sweden, and Prussia. The mortality, severe as it was between the indifferently and the well vaccinated, was not the only evil result to be regretted of bad vaccination. Proportionate to the mortality was the severity of the disease, and to those who escaped death there was damaged health, disfigurement for life perhaps, and the discredit brought on vaccination, which was in no degree due to it intrinsically, but was owing solely to the want of proper knowledge of the subject, and of the necessary care with which the

operation should be performed. Great judgment and caution should be exercised in the selection of vaccine lymph, for in this lay one of the principal causes of failure in vaccination. Lymph for use was in its best state on the seventh day of the progress of the vesicle, the day week from the vaccination; and the author described the character of the vesicle and the indications of the stage when it was most favourable for the collection of the lymph, and some very valuable and instructive observations followed on the mode of conveying lymph, the mode of vaccinating, the mode of preserving lymph, and on revaccination.

The author's conclusions from the foregoing facts and statements were:—

1. That natural smallpox destroyed about one-third of all whom it attacked.
2. That smallpox after smallpox was of comparatively rare occurrence; that a second attack of natural smallpox was rare, but not often fatal, and that protection seemed to be the law. That after inoculated smallpox an attack of smallpox had more frequently led to fatal results; but there is reason to presume that the virus used for inoculation, like a great deal of the lymph used at the present day for vaccination, was often taken at too advanced a period of the disease, and thus did not afford the full measure of protection it was capable of affording if taken at a proper time.
3. That vaccination performed in infancy afforded almost complete protection against the fatality of smallpox to the period of puberty; that a variety of circumstances conspired to make it almost impossible to ascertain exactly in what proportion to the vaccinated, cases of smallpox subsequently occurred, or might occur, if all persons lived to an advanced age.
4. That as a matter of safety it would be well for all persons who were vaccinated in infancy to be revaccinated at puberty; this measure being more especially requisite for those who were either indifferently or doubtfully vaccinated in infancy, and still more necessary for those who, though vaccinated, had no cicatrix remaining. Finally, as a matter of precaution, it would be desirable that all persons should be revaccinated on smallpox existing in the house where they were residing—a precaution, however, that will cease to be necessary to advise when all persons have the benefit of proper and efficient vaccination.

Dr. COPLAND remarked that it would be interesting if any member could give an account of the causes and effects of the smallpox epidemic in Jamaica, where it had been most destructive.

Mr. STREETER would throw out one suggestion, and that was, the necessity of attending to the health of the skin before vaccination was performed. He believed that the exhausted state of the skin in tropical climates was one cause of the imperfect vaccination which obtained in them. With respect to the unsatisfactory state of vaccination in the country districts, he might mention that, about thirty years ago, in the practice with which he was connected, out of more than a hundred children who had been vaccinated, not one-half returned to show the arm and the effects of the operation. He might observe here, that he had only seen one fatal case of smallpox after vaccination, and this was on the fifth day. He alluded to one source of danger in cases of smallpox—namely, a profuse flow of the catamenia which occasionally occurred in the secondary fever.

Dr. WEBSTER considered the paper just read as of great value, whether in respect of the numerous facts it contained or the deductions enunciated by the author. Besides which, the various tables compiled would enable others farther to investigate the question, and so disabuse the public regarding some fallacies recently disseminated. He (Dr. Webster) entirely concurred with the opinion stated, respecting the great fatality of smallpox among young people, compared with those in more advanced life. For instance, during 1847, when upwards of 4,200 persons died by variola throughout England and Wales, more than three-fourths were under five years of age—the sexes being equally divided, while very few had passed their forty-fifth year. Again, the fact mentioned by Mr. Marson, that death very rarely occurred in cases where the individual had been properly vaccinated in three or four places at the same time, was likewise most important, and showed if the system was once properly

imbued with true vaccine virus, little danger of subsequent smallpox need be apprehended. In his (Dr. Webster's) opinion, many of the deaths reported from variola, after cowpox, occurred where the party never had been correctly vaccinated, especially throughout rural districts and country towns; in which localities numbers even remain altogether unprotected, owing to the prejudices frequently prevailing in ignorant minds against vaccination, who obstinately object, it is reported, to the operation, "as an impious attempt to arrest the will of the Almighty." The Society's time being very limited, as announced from the chair, prevented any allusion to several points adverted to by the author; nevertheless, before sitting down, Dr. Webster remarked, that the statements now brought forward more than ever confirmed the protective efficacy of cowpox, when vaccination was carefully and judiciously performed.—*Proceedings of the Royal Med.-Chirurgical Soc.*

23. *Yellow Fever, and its Treatment with Turpentine.* By JAMES LAIRD, Esq., Surgeon R. N.—In connection with this very important subject, deeply impressed as I am with the truth of this hypothesis (alteration of the blood, as the essential cause of idiopathic fevers), but without dwelling on the nature of malaria poison, with its various climatorial modifications in exciting fevers, and other endemic and epidemic diseases, I beg respectfully to submit to you the following remarks on a mode of treatment, which having been adopted here (R. N. Hospital, Bermuda) during the epidemic fever of 1843, has since always appeared to me rational and perfectly consistent with the character of that disease as it then prevailed, and also with the description of tropical remittent fevers in general. I allude to the therapeutical use of the spirit of turpentine; but as details of the treatment, and full accounts of that fever were then sent into office, it would now be supererogatory for me to enter into particulars. I am glad, however, to have the opportunity, with all due deference to those who may entertain a different opinion, to express my humble testimony to the beneficial effects of this truly valuable remedy, and also my regret that it has not yet met with that attention which I conscientiously believe it deserves. To Dr. Gilbert King, who was then in charge of this establishment, is justly and entirely due the credit, so far at least as I can ascertain, of having first used it in small doses as a regular mode of treatment in bilious remittent fever; and it is to be regretted that an officer of his experience and high rank in the service has not ere this made it known to the profession at large; but his silence on the subject has no doubt arisen from the limited opportunity he has since then had of farther testing its good effects. From the ample opportunities I had of studying the nature of the disease during my services here in 1843, and from the numerous histories with which I have made myself familiar, not only concerning the previous epidemics of this colony, but those throughout the West Indies generally, I do not think that bilious remittent fever, in the general sense of the term, can be considered as a disease of the inflammatory diathesis, but rather primarily one of the blood itself, caused by the external morbid poison, and that organic lesions result merely as a secondary effect or complication of this condition. On this ground, therefore, as the basis of the primary morbid action or pyrexia, you have also concomitant local affections to account for the regular series of phenomena observed in severe yellow fever, as also in the action of septic poisons, when taken into the system. In many of our fatal cases of black vomit with jaundiced skin, indubitable proofs of inflammation within the cranium, it must be acknowledged, were observed, but the head symptoms were seldom characterized by that violence so generally attendant on common inflammation in this part; and in nearly all the cases where coagulable lymph existed (sometimes gluing the membranes together) the brain itself was deeply congested with dark blood.

In the majority, however, of the cases dark venous congestion of the brain itself was only found, with serous effusion under the membranes, in the ventricles, and at the base of the skull. I have also particularly to remark that in thirty-seven autopsies, which I performed with as much care as my time on account of other arduous duties then would permit, eighteen only are recorded as showing organic lesions of the intestinal canal, and eight are reported as being

quite healthy-looking. How difficult, therefore, it is to reconcile these facts with the intestinal localization of essential fevers as maintained by the French, or inflammation within the cranium by some of our own pathologists? In no case of this number of dissections is the liver ever recorded as presenting the usual products of simple inflammation, although in thirty-two cases it was found yellow, friable, congested, or otherwise abnormal; and in the chest recent adhesions of the pleura were only observed in three instances. That there is something else, besides the primary inflammatory action of certain organs, to account for the phenomena of fatal fevers, the following analysis of the remaining principal *post-mortem* appearance will also show. In nearly all the cases the subjects were in a state of *embonpoint*, and in eight only the skin was recorded as not tinged yellow, from the presence of that tinge being so constantly noticed. In every case, without a single exception, the mucous lining of the stomach was more or less affected, being either hyperæmiated and discoloured, or softened, or eroded, and ulcerated. In eighteen subjects it contained black vomit, which in seven instances was also found, although more of a sanguineous character, in the intestines. In respect to the liver, five were recorded as natural; in fourteen the gall-bladder contained dark-coloured inspissated bile. Having no microscope, the structure of the kidneys could not be properly examined; but on two occasions they are reported as being enlarged and ecchymosed. The urinary bladder in eleven instances was contracted and quite empty, and in two contracted and containing bloody serous-looking fluid. Lastly, in twenty-two cases the lungs were found either engorged or congested with dark blood, but in nearly every instance otherwise healthy. I also remember distinctly that the blood during these examinations was generally observed to be fluid and dark-coloured. We had, likewise, numerous unequivocal proofs, during the epidemic, that the blood was in a dissolved or diseased condition, as shown by passive hemorrhage from the nose, mouth, and bowels, and occasionally uncontrollable oozing of dark blood from leech-bites, and from scarifications after cupping. That the external cause of the disease existed here I have every reason to believe, both from the extensive sources of malaria in this small colony, and from the peculiar concomitant condition of the weather, so commonly observed during our epidemic seasons; but whether this morbid cause so generated is imbibed into the system by the lungs, and affects the vascular before the nervous system, physiology has yet to determine. At any rate, it appears natural to conclude that the blood, after its primary impregnation, or rather at the commencement of the attack, becomes afterwards farther contaminated by the non-elimination of the different excretions, as is known to take place in certain forms of jaundice, in milk fever, and disease of the kidneys.

With this view, therefore, in regard to the pathology of yellow fever, and there is good reason to believe also of cholera, supported as it is by the analogy of the action of certain poisons on the system, I will now endeavour to prove the consistency and reasonableness of the turpentine mode of cure. During the epidemic, it was first prescribed by Dr. King, in five very bad cases of this disease, with the view solely, I believe, of restraining passive hemorrhage, when its peculiar salutary influence was so strikingly observed. This happened on the 27th of August, about a month after the fever had broken out; a revulsive plan of treatment, including general and local bleeding, to a large extent, having up to this period been practised with very unsatisfactory results. After these experiments on the five cases alluded to, all of whom remarkably recovered (and two were reported as having had black vomit), the turpentine was afterwards given in every case and in every stage of the disease, with what success documents then sent into office will show. When I joined the hospital, on the 19th of September, the epidemic may be said to have been at its height, and there were then 103 cases of fever under treatment. The general mode pursued was a moderate bleeding at the commencement (from twelve to twenty ounces), followed by cupping or leeching, if it seemed necessary.

If the patient had received no medicine prior to admission, the *prima viæ* were cleared out by a purgative dose of calomel or blue pill, along with solution of Epsom salts, and the turpentine then given in doses of 20 minims in a little

camphorated water, three times a day. In consequence of strangury, it was occasionally administered in combination with sweet spirits of nitre; but this troublesome symptom was happily of but rare occurrence, and then generally consequent on the application of blisters. Small doses of tincture of opium, and also castor-oil, were occasionally combined with it, in cases attended with frequent bloody and otherwise vitiated dejections, or in an opposite state of the bowels. The auxiliary treatment comprised sinapisms and blisters to the epigastrium, emollient enemata, and, during the stage of debility, wine negus, beef-tea, &c., and cinchona injections. The principal remedy being therefore the turpentine, since in the generality of the cases nothing else was given, I consider it, without any prejudice whatever, as a remedy in bilious remittent fever, not only perfectly consistent with, but particularly indicated by, the symptoms during life, and also the appearances after death, for the following reasons: First, the hemorrhagic character of the disease, depending doubtless on some change either in the chemical or vital properties of the circulating fluid; secondly, from the speedy embarrassment of the different excretory functions, particularly that of the kidneys, a diminished or suppressed excretion of urine having been particularly observed here as the most unfavourable symptom, and proved by the frequently contracted and empty condition of the bladder in fatal cases. As regards the first proposition, since this medicine is universally acknowledged as producing certain styptic and other salutary effects, melæna and ordinary passive hemorrhage, is it not reasonable to infer that it will be equally effectual in fevers, not recognizing inflammation as their proximate cause, and attended with a somewhat similar pathological condition? In regard to the second proposition, its well-known physiological influence on the renal and cutaneous vessels proved it to be, as a diuretic and sudorific, the very remedy which nature points out, in the means she herself adopts in the spontaneous cure of malignant fever. Besides these long and well-known properties, and also its acknowledged action on the nervous system,¹ I believe that turpentine possesses antiseptic or antiscorbutic qualities, as I have in several instances observed in scurvy, and particularly in scorbutic ulcers of the leg, indicated by their florid, healthy appearance, after a few doses of this medicine. That it is not in the doses above mentioned a stimulant, but, on the contrary, an indirect sedative, and therefore not counter-indicated in the first stage of yellow fever, our experience here most satisfactorily proved in hundreds of cases, as it has also since done in the treatment of dysentery. Unprejudiced, as I hope I am, and being anxious to bring this really valuable remedy more into notice by an honest appeal to plain ascertained facts, I beg leave respectfully to state, in the most earnest and unqualified manner, that instead of exciting the circulation, it quieted it, and allayed the urgency of the primary pyrexia by quickly (and in some cases almost immediately) restoring the pent-up secretions. The moderate bleeding, which was generally practised at the commencement, and frequently found essentially necessary to divert local determinations, no doubt materially assisted it in its action on the skin and kidneys, and on this account must be considered as a very important step in this mode of treatment.

Turpentine is, therefore, a mere simple, innocuous remedy, which, besides its sedative, styptic, and antiseptic properties, possesses also the peculiar power, in its action on the secretions and excretions generally, of re-establishing and keeping open the two great natural drains of the system, viz., those by the skin and kidneys, the functions of which, we all know, are amongst the first to be impaired or impeded on an attack of fever. That it claims attention from its having the advantage over specific medicines in this disease, such as quinia, calomel and quinia, and bebeerine (mercury being now considered not a specific, of which we had numerous proofs), is sufficiently obvious, from the nature of its action being readily explained, and from its use being equally beneficial in the last as in the first stage of the disease; I mean, when black vomit, bloody dejections, and low delirium have set in; and, as a testimony to its good effects,

¹ See Dr. Graves's Clinical Medicine, p. 126.

we had several recoveries from black vomit, attributable entirely to its influence.¹

Viewing, therefore, the pathology of yellow fever as being primarily connected with a morbid alteration of the blood, and admitting the analogy between its phenomena and the action of a septic poison on the system, borne out, as their identity is, by the rapidity of the morbid action, the salutary efforts of nature, and the speedy convalescence, what better remedy, I beg respectfully to ask, do you require than this, which, like ammunition in a besieged citadel, supplies the means of defence, till the poison, like the enemy, is worn out and overcome?

In conclusion, I have to observe that during last winter I had an opportunity of trying this remedy in a very severe case of typhus fever, as did also a friend here, in eight other cases, with excellent effect, given in the following formula: spirit of turpentine, spirit of nitric ether, of each three drachms; compound tincture of lavender, two drachms; camphor mixture, four drachms. Of this mixture (well shaken up) a teaspoonful was given in a wineglassful of water every four hours. I was led to prescribe the turpentine in this form, to save the patient I attended, who was very poor, the expense of a larger mixture, and combined it with the nitric ether, to guard against strangury, which I was afraid would be easily excited in this climate. The other ingredients appear to answer tolerably well in disguising the turpentine taste and smell; but the in-odorated is much preferable to the common turpentine. In all these cases its beneficial effects were equally well marked as in the continued and remitting fevers of Bermuda; and, I have no doubt, should any of your readers feel disposed to try this mode of treatment in the typhoid fevers of this country, with an unprejudiced mind and an observant eye, the results will prove the truth of these remarks.—*Lancet*, Aug. 27, 1853.

24. *Yellow Fever, as it appeared in the Island of Antigua in 1835, 1839, and 1842.*—Dr. THOMAS NICHOLSON presented to the Epidemiological Society an interesting paper on this subject.

The author commenced by stating that he had been thirteen years on the island of Antigua before he had an opportunity of witnessing a single case of the disease known to the English and Spanish colonists, on both sides of the Atlantic, for nearly a century, and described by writers under the terms "yellow fever," "bulam fever," "vomito prieto," &c., although severe and fatal cases of bilious remittent had been prevalent every year in the malarious districts,

¹ *Statistics of Mortality.*—1. Showing the comparative success of different modes of treatment in 164 cases of fever, as they are entered in the books of the Royal Naval Hospital, Bermuda, from the commencement of the epidemic; and the same number of cases, taken in the same order, from the 27th of August, 1843, when the spirit of turpentine was first administered:—

<i>Treatment without Turpentine.</i>		<i>Treatment with Turpentine.</i>	
Number of cases	164	Number of cases	164
Died	25	Died	19
Rates of mortality	1 in 6.6	Rates of mortality	1 in 8.6
Recoveries from black vomit	1	Recoveries from black vomit	4

2. Showing the number of cases treated with turpentine at the Royal Naval Hospital, Bermuda, between the 27th of August and the cessation of the epidemic in December, 1843:—

Total number of cases	882
Died	80
Rates of mortality	1 in 11
Recoveries from black vomit	24

3. Showing the number of cases of yellow fever admitted into the Royal Naval Hospital, Bermuda, during the epidemics which prevailed there in 1818, 1819, and 1837:—

	No. of cases.	Died.	Rates of mortality.
1818	105	28	1 in 3.8
1819	106	25	1 in 4.2
1837	140	22	1 in 6.4

in some seasons assuming an epidemic form, and producing great mortality. A formidable visitation of the bilious remittent was experienced in 1823; yet, although the mortality was very great, in no instance did "black vomit" occur. Reasoning from these facts, and from subsequent observation, the author believes that "vomito prieto" was not known among civilians in the colony from 1816 to 1835, and that yellow fever differs as much from bilious remittent as the epidemic or Asiatic cholera differs from sporadic or English cholera; but that no circumstance had arisen to make him believe that the disease was propagated by contagion. Dr. Nicholson described, clearly and graphically, the three epidemics of yellow fever he had witnessed at Antigua. That of 1835 was preceded by a severe hurricane that did great damage to the buildings in town and country, but more so to the vessels in the harbour of St. Johns, the capital of the island, the barometer having fallen, during the fury of the tornado, not less than 1.5 inch. The sea, which rose in the gale above its usual level, aided by the wind, deposited a great quantity of marine organic matters and vegetable rubbish about the wharves and precincts of the town bounded by the harbour; and it was remarked by the inhabitants in that quarter that the smell arising from the sea, particularly at night, was peculiarly offensive. The visitation of the hurricane took place on the 12th of August, and cases of fever began to drop in about the 20th of September; but it was not until the 10th of October that the occurrence of a case of "black vomit" declared the true nature of the epidemic, which continued to increase until the first week of November; after which it gradually declined, and by the end of December had nearly disappeared. During the progress of the epidemic, Dr. Nicholson attended 220 cases; of whom 75 were Europeans, 65 white Creoles, and 80 coloured people. Of the Europeans, 12 died, of whom 10 had not been in the island twelve months. None of the native whites died; but two of the mixed race sank, under peculiar circumstances. The character of the fever, during the epidemic of 1839, was of a more open or inflammatory type than that of 1835, and the disease made its appearance by attacking only those young men who had come to the island during the interval. The invasion of 1842 was marked by the same predilection of the disease for new-comers, and proportionate mortality among them, compared with the Creoles and the mixed race. On all these occasions, it is remarkable that the epidemic was confined to St. John's; and although Dr. Nicholson's practice extended over twenty-eight estates, on each of which white persons resided, who were unprotected by a former attack, none of them took the disease. Dr. Nicholson considers that three varieties of the malignant form of yellow fever are observable, viz., the ardent, the adynamic, and congestive or apyretic. The diagnosis of yellow fever, and the symptoms, the treatment of each form, with the appearances observable after death, were detailed in a very lucid manner, and illustrated by appropriate cases that occurred in Dr. Nicholson's own practice during the several epidemics. Dr. Nicholson is opposed to the view which recognizes yellow fever, bilious, remittent, and intermittent fevers as the offspring of the same terrestrial miasmata. He grounds his opinion on the fact that the two last-named disorders prevail more or less between September and March every year, whereas, during the last twenty-five years, there have been only three visitations of the yellow fever. The endemic forms prevail in the country districts chiefly, while the inhabitants of St. John's are seldom attacked with them; whereas, the epidemic yellow fever was confined to the city, and the garrison at the Ridgel, and English harbour. The European youth employed by the mercantile profession in the town are comparatively exempt from remittent fever, while those who superintend agricultural operations in the country never escape. After a brief but admirable sketch of the geological structures, and of the more prominent features of the several districts of the island, Dr. Nicholson states that, although there is only one district which presents unequivocal sources of paludal emanation, yet all parts of the island are at certain seasons affected by malaria. Two things, he adds, are always present when fever prevails in these districts—a hot sun during the day, and circumstances favourable to the radiation of heat from the earth, and the deposition of dew at night; and he considers that the febrile poison, whatever it may be, is deposited with the dew. In this way Dr. Nichol-

son explains the greater prevalence of remittants in country districts than in St. John's, it being well known that more dew is deposited in the open country than in cities, where houses conceal a portion of the sky; and that a soil covered with vegetation is also more favourable to the production of dew than the trodden streets of a town. The introduction of European labourers into St. John's and into the country districts has afforded ample opportunity for corroborating the views taken by Dr. Nicholson as regards the kind of fever to which town residents and country residents are respectively liable. Finally, Dr. Nicholson holds to the opinion that the disease is *sui generis*, and that it attacks an individual only once in his lifetime. "This," continues Dr. Nicholson, "was in a great measure corroborated by the epidemics that fell under my notice—not one of those persons who suffered in the first epidemic was attacked in the subsequent visitations."

Dr. Milroy said that the communication must contain much valuable information. Dr. Nicholson had been fifteen years in the island without seeing an example of black vomit. He thought that this remarkable circumstance deserved attention, because, in all probability, the occurrence of black vomit would have been considered by some as a clear proof that the disease had been introduced: whereas, the experience of Dr. Nicholson proved clearly that it arose spontaneously. The experience of Dr. Nicholson, however, did not quite agree with that of other practitioners in Jamaica; but one of the most striking features connected with the spread of the disease, which had been mentioned by the author, was its limitation to the town. Another instance had been related, in which it was confined to the military station. Epidemic diseases, according to his (Dr. Milroy's) belief, did not spread with a uniform and uninterrupted diffusion, but in scattered patches. It frequently happened that, when the yellow fever had been brought by vessels to the port, it did not spread. The treatment adopted by Dr. Nicholson differed from that practised by Dr. Blair and others, in being of an antiphlogistic nature. Now, in Jamaica, this method of treatment was not found to be the most successful; indeed, the most distinguished physicians in that island were opposed to lowering measures, and the best treatment was found to be that which consisted of a combination of quinia and calomel.

Dr. Gavin observed, with regard to the statement of Dr. Nicholson, that it was not at first easy to diagnose between yellow fever and the ordinary remittent fever so common in the West Indies; that he had found that a certain redness of the fauces and eyes constituted specific signs of the advent of yellow fever. There was no more difficulty in predicting where yellow fever would break out in the town in the West Indies, than there was in foretelling the spots where typhus and cholera would be most prevalent in England. He (Dr. Gavin) had made arrangements for obtaining a larger amount of information than had yet been collected on the subject, which he hoped to be able in a short time to lay before the public. Dr. Blair was also preparing a second edition of his work, in which much new and valuable information would be contained. Reference had been made to the difference between Dr. Nicholson's and Dr. Blair's treatment; but he conceived that Dr. Nicholson was quite justified in objecting to the employment of Dr. Blair's treatment in the ardent form of the fever—the form which he appeared more especially to have met with. Attention should, he thought, be always paid to the nature of the locality, as to whether it was, or was not, marshy, in deciding the treatment proper to be adopted in any given case. The epidemic now prevailing in the West Indies differed (said Dr. Gavin) from the previous outbreaks, in affecting natives as well as Europeans.

Dr. Camps made some allusion to an indigenous plant, which he understood was held in high esteem by the natives, on account of its supposed powers of curing yellow fever. He wished to know whether this plant had been found efficacious in the hands of European physicians.

Dr. Gavin replied that the plant in question, which was a species of verbena, had been employed by English practitioners, but he had never seen any good result from its use which he could ascribe directly to the plant itself; and he referred whatever benefits might have been derived during its administration

to the large quantities of warm water with which it had been combined. There was, however, another plant which Mr. Purday had discovered, and which he thought would be found to possess virtues nearly equal to those of quinia, though belonging to a different order. He did not, however, wish to pronounce any opinion on the merits of this plant, as its properties had not yet been fairly investigated or its medicinal powers tested. No good could, therefore, result from any premature announcement respecting it. He (Dr. Gavin) quite disagreed with the remarks that had fallen from one of the preceding speakers (Mr. Richardson) respecting the independence of epidemics on meteorological conditions; for he had noticed that, in the West Indies, the prevalence of the wind from a particular quarter was necessary for the outbreak and progress of yellow fever.—*Med. Times and Gaz.*, Aug. 6, 1853.

25. *Abstract of Eighteen Cases of Typhus Fever, treated in King's College Hospital by the free exhibition of Brandy, &c., under the care of Dr. Todd.*—We have recently watched with great interest a series of severe cases of typhus fever, under the care of Dr. Todd, in this hospital, in which an almost uniform plan of treatment, by means of the very free exhibition of stimulants, more especially brandy, has been resorted to with great success. Reflecting instructively, as these cases do, on one of the most important questions in the whole range of practical medicine, we hasten to bring their chief features before the attention of our readers. The series consists of eighteen cases; and, as we cannot, of course, find space for the details of the whole, we shall content ourselves by recording, by way of example, the particulars of a few of the more interesting, and append to them a brief synopsis of the rest. The whole having occurred within the last few months, and several of them within a few weeks, they present, we believe, fair specimens of the form of fever lately and still prevalent in the metropolis. They do not, however, comprise all which have been under Dr. Todd's care during the time referred to, but only those of well-marked typhus type, and which agreed in presenting the following symptoms previous to the commencement of the treatment: A copious eruption of scattered measles-like spots (mulberry or typhus rash); bowels either confined or but slightly relaxed; great prostration of strength; delirium (in six cases, coma was present); a small and very rapid pulse. It may be well to premise that they were treated as is done in almost all general hospitals in the open wards, their beds being purposely arranged so as to occur at some distance from each other, in order to prevent the accumulation of contagious emanations. The treatment pursued consisted in administering, either every hour or every half hour, day and night, from half an ounce to an ounce of brandy, with a draught every second hour, containing *sp. æth. chlorici ℥x, ammoniæ carbonatis gr. v; aq. pur. ℥j*. The patients were induced to drink as much strong beef-tea as possible; the head was always shaved; and, in most, a blister was applied to the scalp. We are indebted to the careful observations, noted daily by Mr. Macnamara, the clinical assistant in charge of the cases, for the whole of the particulars respecting them. The first to which we shall allude was a very severe attack, and happened to an elderly and unfavourable subject; the beneficial effects of the alcoholic stimulant is strikingly shown, and there even appears some cause to infer the superiority of brandy over wine.

Elizabeth B., aged 70, was admitted June 16, 1853. She complained of severe headache, and of much pain in her limbs; was very deaf, and could see but very indistinctly. Her daughter stated that the two latter symptoms had commenced four days previously, and the illness was of about a fortnight's duration, having begun with aching pains in the limbs and head, and great prostration of strength, followed, after four or five days, by several successive shivering fits. Pulse 122; tongue thickly furred.

R. Tinct. opii ℥xx h. s. sumend.

R. Sp. am. arom. ℥xx; aq. pur. ℥iss. 4tis horis sum.

18th. The skin of chest and abdomen is covered with an eruption of measly spots. The patient has been delirious during the night; her tongue is dry and furred; pulse 124; the bowels have acted but once since admission. *Pt.*

19th. Has been very delirious; pulse 126; other signs as before.

R. Am. carbon. gr. v; sp. æth. ℥xv; aq. Ziss. 3tis horis. Wine ℥viii per diem.

21st. Much worse; lies in an almost comatose condition, and allows her urine and feces to pass into the bed. Pulse 130. The head is to be shaved, and a blister applied. Instead of the wine, half an ounce of brandy is to be given every half hour.

Rep. mist.

22d. Pulse 124. The half-comatose condition still continues, and is only interrupted by low, muttering delirium.

23d. Pulse 120. The coma is passing off, and the delirium is less constant during its intermissions. The spots have now entirely disappeared from the skin. The patient takes her beef-tea much better than she did.

24th. Pulse 114. This morning the head symptoms are much less severe; and, on being questioned, the patient occasionally returns rational answers. The bowels act daily, but are not loose. To continue the same treatment.

25th. Pulse 96. The skin for the first time is moist. The patient states that she feels much better, and can be got to understand clearly where she is, which has not been the case on any previous occasion since her admission.

26th. Pulse 90. To take half an ounce of brandy every two hours.

From the last date she continued to improve. To aid her convalescence, quinia and other tonics were administered. She was discharged quite well, six weeks after admission.

In the next case, the progressive decrease in the frequency of the pulse subsequent to the employment of the stimulant was equally well marked as in the above. It occurred in a much younger subject.

James E., aged 18, began to feel ill on the 27th of June; and, on the 29th, was seized with shiverings, pains in the limbs, and great prostration of strength. He was admitted into the hospital on July 5; and, at that time, the skin was hot and dry, and covered with the typhus rash. The ocular conjunctiva of each eye was red and congested, and the tongue brown and furred. Pulse 112.

Ordered R. Am. carb. gr. v; aq. pur. Ziss; ter die. Beef-tea *ad libitum*.

July 6. Pulse 120. The bowels have acted once to-day. Delirium was present during the night.

Rep. mist.

7th. Pulse 124, very weak. The delirium has been so constant, that the nurse has found it impossible to induce him to take any nourishment. Rep. mist. The head is to be shaved, and half an ounce of brandy is to be administered every hour.

8th. Pulse 120, still very feeble. Bowels act daily.

9th. Pulse 112. The delirium is much abated, and the patient takes his beef-tea well.

11th. Pulse 100, much improvement. The brandy is to be continued.

12th. Pulse 92. For the first time the skin is moist and perspiring. From this date the patient gradually recovered.

At one time most of the members of an Irish family living in a dirty alley in the neighbourhood were in the hospital together, all suffering from the same type of fever. The following case is that of one of the sons:—

John C., aged 15, admitted June 28, having been seized on the 23d with shivering, pains in the limbs, prostration of strength, and severe purging. He had, at the time of admission, the usual symptoms of fever, was very restless, and at times slightly delirious. The bowels were not much relaxed; there was loud rhonchus heard over both lungs. Pulse 116, skin hot and dry. To drink beef-tea.

29th. Pulse 118, very feeble. The delirium is increased. Half an ounce of brandy every hour.

July 1. No improvement. Pulse 120, and very weak. The boy lies in a semi-comatose condition. Believing that the administration of the stimulant had not been well attended to, Dr. Todd ordered a special nurse for the case, and directed that the brandy and beef-tea should be regularly given day and night.

2d. Pulse 100. The patient is less stupid, and seems to understand the questions which are put to him.

4th. Pulse 92. There is no delirium present. The tongue is much cleaned, and the respiration is unattended by any degree of rhonchus.

5th. Pulse 80. The skin is moist. The brandy is to be given every two hours.

8th. Is rapidly getting better. The brandy is discontinued, and two pints of porter per diem substituted for it. From this time the patient very quickly recovered.

Out of the whole eighteen cases, but one terminated fatally. The subject of it was very violently delirious on the day of her admission, and no account of her previous symptoms could be obtained. Death occurred on the third day afterwards. On making the autopsy, the brain was found to be slightly congested, and the gray matter was of a darker colour than usual. Peyer's patches in the small intestines were enlarged and very distinct, but not ulcerated. The spleen was enlarged, full of blood, and very soft; but all the other organs appeared to be in a normal condition.

Excluding, then, this fatal case, we will now examine the condition of the circulation in the remaining 17, more especially with regard to the influence of the treatment upon it. On the day that the administration of brandy, etc. was commenced, the pulse had, in five cases, a frequency of 136 per minute; in three, of 126; in seven, of from 120 to 126; and in one, of 116. After the measures above specified had been pursued for four days, the pulse had, in eight cases, fallen to 92; in five others, it had fallen below 92 on the fifth day; and, in the remaining four, to below 90 on the sixth. Again, taking the day on which treatment was commenced as our starting-point, the skin, previously hot and dry, relaxed, and became moist and perspirable, on the fifth day, in nine cases; on the sixth day, in five cases; on the twelfth day, in one case; and in the remaining two the date of this crisis was not recorded.

The degree of success exhibited by the above facts is, we suspect, very considerably beyond that usually obtained in cases of so severe a type as those under consideration, and is very encouraging to a pursuance of a similar plan of treatment in future. That the success did really depend on the treatment, appeared to be conclusively evidenced in several cases, in which the pulse, progressively increasing in frequency up to the time that the brandy was ordered, steadily fell from that day forwards. The relapses of one or two, in consequence of the accidentally inefficient administration of the remedy, also afford important support to the same conclusion. In respect to the numerical age of the fever at which the brandy treatment was commenced, it varied so much in the different cases, that there does not appear to be any practical advantage in attempting to state it. In all, however, the first stage had passed, and low "typhus" symptoms had become fully developed. Dr. Todd is continuing the same plan of treatment on the fever patients now under his care, and hitherto with very pleasing results. We shall probably return to the subject at some future time.—*Med. Times and Gaz.*, Aug. 27, 1853.

26. *Three Cases of Hemiplegia, caused by the blocking-up of a Cerebral Artery.*—Dr. RUKLE remarks that sudden hemiplegia, occurring in heart-disease, with or without loss of consciousness, is not uncommon; dissection¹ shows, in such cases, sometimes hemorrhage, sometimes softening, and with the latter lesion blocking-up of an artery is often combined. VIRCHOW, in his work on *Acute Inflammation of Arteries*,¹ first showed that such blocking-up of arteries could arise from the arrest in them of foreign bodies brought from distant parts. The three cases of hemiplegia now related prove the same fact. In the first case, sudden hemiplegia on the right side came on in a patient with hypertrophied heart and diseased aortic valves; after death, the left arteria fossæ sylvii was found blocked up with a calcified mass, evidently detached from an aortic flap, and the left corpus striatum was softened. The author declines to say whether the softening followed the obliteration, but has little doubt that the sudden

¹ *Archiv. für pathol. Anat.* vol. i. p. 272.

hemiplegia was attributable to the latter cause. The second case seems to render this opinion highly probable. In this instance, sudden right hemiplegia came on, followed by death in seven hours. On section there was blockage of the "carotis cerebialis sinistra," caused by lodgement of a clot which had been detached from an old chalky concretion hanging down from a contracted mitral orifice into the ventricle; there was, however, no softening of the cerebral substance, so that here the mere arrest of circulation, in a particular part of the brain, caused hemiplegia, without visible alteration of the brain-substance. In the third case (phthisis pulmonalis), without any cardiac murmurs, sudden right hemiplegia came on; on section, the "carotis cerebialis sinistra" was blocked up with a white, tough, elastic plug; there was yellow softening of the under and middle part of the left hemisphere. On the mitral valve were two fibrinous coagula, white, elastic, and seated on and firmly adhering to excrescences on the valves. In all other vessels between the mitral valve and cerebral artery were no other coagula. In all these three cases, the coats of the cerebral arteries were normal, and there was no local cause for their blocking-up.—*Virchow's Archiv.* vol. v. p. 189.

[These observations were evidently made without cognizance of those previously recorded by Dr. Kirkes;¹ and they are therefore extremely valuable as confirmatory evidence, as well as in the novel fact they prove, that mere deprivation of blood will cause hemiplegia.]—*Brit. and For. Med.-Chir. Rev.* July, 1853.

27. *Progressive Atrophic Muscular Paralysis.* By M. CRUVEILHIER.—M. Aran has described, in the *Archives Générales*, a form of muscular paralysis, under the term "progressive muscular atrophy;" and M. Thouvenot has described the same lesion under the title "atrophic muscular paralysis." Since 1848, this form has been familiar to M. Cruveilhier; and in the present memoir various cases of it are related. The first case was that of a lady, aged 40, with general paralysis, more marked in the upper than in the lower extremities, and unaccompanied by lesion of sensation, or alteration of intellect. Death ensued by extension of the paralysis to the diaphragm and laryngeal muscles. A profound lesion of the spinal cord was diagnosed, but after death the nervous centres were found to be perfectly healthy. The true nature of the case was not recognized, and M. Cruveilhier, not content with the term *névrose*, given to the case by other physicians who witnessed it, accused pathological anatomy of want of power to recognize some lesions of the brain and cord. The second case was that of a man, aged 18, with general paralysis, sensation and the intellectual faculties being unaffected. An affection of the anterior column of the cord was diagnosed, but after death the cord was found perfectly healthy. The muscles were carefully dissected, and were found to be atrophied in two ways, viz., by simple atrophy, and atrophy with fatty degeneration. The state of the nerves was not examined. In the third case, there was gradual muscular atrophy and paralysis, with retention of intellect and sensation. In addition to the paralysis, there were tremors, or little convulsive shocks, of the muscles of the extremities, as long as the atrophy was not complete. There was also, occasionally, a kind of general trembling or shivering. Death finally ensued from general bronchitis and "œdematous pneumonia." Many of the muscles were atrophied and in a state of fatty degeneration, exactly resembling, as M. Cruveilhier remarks, the state of the muscles described by Dr. Meryon, in the last volume of the *Medico-Chirurgical Transactions*. M. Mandl, in drawing the microscopic appearances, produced plates precisely similar to those of Dr. Meryon. The brain was perfectly healthy; so also was the spinal cord and the posterior roots of the nerves. But the anterior roots, especially in the cervical region, were found to be greatly diminished in size; in fact, atrophied. This condition was traced till the union of the roots; in the conjoint nerve on the distal side of the ganglion no change could be detected; the trunks forming the brachial plexus, and this plexus itself, were healthy. The nerves running in the thickness of the muscles were, however, atrophied; and this was traced most exquisitely in the tongue, of which there had been perfect paralysis. The lingual (gustatory) nerve was

¹ See No. 22, p. 384.

well fed and of proper size, but the hypoglossal (motor) nerve was extremely atrophied; many of its branches seemed to consist of nothing but neurilemma.

M. Duchenne had electrolyzed this patient, and found that, as the paralysis advanced, the muscles became inexcitable.

M. Cruveilhier remarks on these three cases, that the first case showed only paralysis without disease of the nervous centres; the second, more completely examined, exhibited great muscular atrophy and degeneration; while the third, still more carefully dissected, showed, in addition, atrophy of the anterior roots and of the muscular branches of the nerves. He remarks, also, that the clinical history and the morbid anatomy exactly accord. There is conservation of intelligence, and want of disease in the brain; conservation of sensation, and the cord and posterior roots are unaffected; paralysis of motion, and the motor nerves and muscles are atrophied.

But what is the connection between the atrophy of the muscles and of the nerves? Which is primary and essential?

The coincidence of nervous and muscular atrophy cannot properly be regarded as an exceptional case; nor, in all probability, is it a simple coincidence. Cruveilhier, after referring to the rapidity with which the atrophy occurs, to the great influence of the nerves, and to a case (of Dupuytren's) in which atrophy of one-half of the tongue succeeded compression of the hypoglossal nerve by a cyst, regards, as demonstrated, that the atrophy of the nerves is the primitive lesion, and the atrophy of the muscles is consecutive, and a consequence merely of diminution of function.

But what is the cause of the nervous atrophy?

Here observation at present fails, and future clinical experience must solve the problem. M. Cruveilhier believes that he has accomplished one step of progress in showing the implication of the nerves. How the nerves become implicated must now be learned.—*British and Foreign Medico-Chirurgical Review*, July, 1853, from *Archives Générales*, May.

28. *Writers' Cramp*.—M. HUBERT VALLEROUX related to the Société Médico-Pratique of Paris the case of a man, aged 40, an accountant, of good constitution, who wounded the middle finger of the right hand with a bit of a percussion cap, in discharging a gun, four years ago. Although the fragment was immediately extracted, a certain degree of sensibility remained. Subsequently an abscess formed, which, when opened, gave exit to another bit of cap. Some time afterwards, the patient began to experience cramp in the hand, which could not steadily hold the pen, but permitted it to slip about, so as to render him incapable of keeping his books. Then the affection spread, though in a slighter degree, to the left hand, and the man was obliged to give up his employment entirely. Frictions, liniments of every kind, effected no melioration in the patient's condition, and M. Hubert Valleroux inquired whether any of the members of the Society could assist him. The extension of the affection from the right to the left hand appeared, according to M. Dreyfus, to indicate that this curious affection was of rheumatismal origin. M. Perrin remarked that the affection had been described of late years by several authors, under the name of writers' cramp, and that mechanical support seems to give the patient the most relief. M. Delthil stated that the disease was not confined to writers. There were two cases upon record; one of its occurrence in a shirt-maker, who became unable to use the scissors; the other, in a church-clock painter, who lost the power of steadily holding the long brush necessary in his art. M. Amenille recalled to the Society's remembrance the fact that there had already been a discussion upon this fact, with reference to a certain pianist, whose fingers became so convulsively cramped in executing a piece, that he was forced to give up his profession. Attempts to afford him relief had been made by fitting on the fingers large heavy rings, and on the wrist a heavy bracelet. No advantage ensued.—*Société Médico-Pratique of Paris*, May, 1853.

This disease is occasionally, though rarely seen in England; but M. Hubert Valleroux is in error in supposing that the extension of the cramps from one hand to the other is rare. It may be regarded, on the contrary, as the rule,

though the affection is usually more severe in the part where it commenced. As occurring in writers, it may be more accurately described as affecting the muscles of the thumb. In a case mentioned to us by Mr. Holmes Coote, the disease consisted, not so much in spasmodic contraction of the flexor muscles, as in a sudden temporary paralysis of the extensor muscles of the thumb, for the digit did not convulsively close in the palm of the hand, but simply slipped away from the pen, after being applied to it for a few moments, evidently from loss of power in the opposing force to the flexor muscles. The disease in this case extended from the right to the left hand, where, however, it never attained the severity manifested in the part first affected. The only mechanical contrivance which afforded even partial relief was an apparatus consisting of a circular holder attached to two rings, which fitted on to the fore and middle fingers, and held the pen suspended independent of the thumb. But after a time the extensor muscles of the fingers became weak, and the patient was obliged to acquire the habit of writing with the left hand. It is worthy of remark, that every other movement of the hand, however minute, save that of writing, was retained perfectly by this patient.—*Med. Times and Gaz.* Sept. 10, 1853.

29. *Statistical Report of Fatal Cases of Diseases of the Brain occurring during the last Four Years at St. George's Hospital.* By A. W. BARCLAY, Medical Registrar. (*Proceedings of the Royal Medical and Chirurgical Society*, June 28, 1853.)—The author was induced to present to the Society this statistical report from a conviction that our knowledge of the relation between the symptoms and pathological states of the brain was as yet very imperfect; and he believed that greater certainty in the diagnosis could only be accomplished by an accumulation of facts, and by arranging these in the present form he was led to hope that some useful and authentic information might be obtained. The report was wholly confined to cases in which, by *post-mortem* examination, the nature of the lesion was ascertained; for his object was to deal with facts, and not with theories; and for the same reason no reference was made to the proportion of cases admitted into the hospital, nor to the relative proportion of deaths and recoveries among persons supposed to be labouring under similar diseases. It was hardly necessary to add, that diseases of the brain yielded an invariably high ratio of mortality. The cases were divided into scrofulous inflammation, with or without actual presence of tubercles in the brain; simple inflammation; abscess; softening of a non-inflammatory nature; delirium tremens; apoplexy; and tumours. The author proceeded to offer some observations on the cases included in these several divisions.

1. *Scrofulous Inflammation.*—These cases were twenty-eight in number, and the age at which such cases proved fatal contrasted remarkably with other diseases of the brain. There were nine under fifteen years of age; five from fifteen to twenty; seven from twenty to twenty-five; four from twenty-five to thirty; two from thirty to forty; one from forty to fifty; one over fifty years of age. No facts were recorded in the majority of the cases which threw any light upon the usual exciting cause of scrofulous inflammation of the brain. The symptoms were sometimes slowly and insidiously developed, at other times setting in with unexpected violence; while no point in the history of the case could be learned in any way accounting for their origin. And this had not unfrequently been the case when the patient was under observation at the commencement of the disorder. In nineteen of the twenty-eight cases, scrofulous or miliary tubercles were found in the brain or its envelopes, the proportion of yellow, cheesy, or scrofulous tubercle being far greater than those of the miliary kind. The mode of incursion of this form of brain disease was very various; but those in which it was most difficult to recognize were the cases commencing with symptoms resembling ordinary continued fever. In three instances, there had been previous attacks referable to the nervous centres; in another instance, the symptoms were developed soon after a fall; in one, after exposure to the sun; in the remainder, there was no satisfactory history. In eleven cases, pain in the head was the earliest symptom; in six, delirium was the first prominent symptom; in two, convulsions commenced as the first evidence of mischief. In eleven out of twenty-eight cases, pain of the head was not complained of; delirium was

absent in eight cases of this class. Convulsions may be said to be the rule, and their absence the exception in childhood. Among the twenty-eight cases, there was no exception to this under the age of thirteen. The period at which delirium commenced, convulsions, paralysis, partial or general strabismus, were also carefully noted and recorded. The *post-mortem* condition of the cerebral mass, as well as of the membranes and vessels accompanying the scrofulous deposit, were next compared.

2. *Simple Inflammation and Congestion.*—The ages of these patients formed a striking contrast to those of the preceding class. Here the earliest period of fatal inflammation was sixteen years, and only three were reported under the twenty-seventh year, the period at which all but five of the scrofulous cases had terminated. Classified in periods of ten years, there were three cases from fifteen to twenty-five, eight from twenty-five to thirty-five, four from thirty-five to forty-five, three over forty-five years of age; the oldest occurring at the age of fifty-seven. Of the eighteen cases, only four were of the female sex. The mode of incursion in cases of simple inflammation was less insidious, and more commonly traceable to a distinct exciting cause, than in the preceding class, and there were only three instances recorded in which the history of the case and the character of the symptoms rendered the diagnosis of acute disease in the brain by any means doubtful. The special symptoms characteristic of cerebral lesion, pain of the head, delirium, convulsions, and paralysis, were noticed in relation to their frequency and the period of their occurrence. Of the *post-mortem* appearances, lymph or turbid serum was found in nine cases upon or under the arachnoid; in fourteen cases, fluid was found in the ventricles. The brain was soft in four cases, two with increased vascularity, and two with a watery state of the brain. It was congested in eleven cases, and wet and pale in three. Then followed a contrast between the symptoms in the scrofulous and the non-scrofulous class.

3. *Abscess of the Brain.*—Five examples were recorded of this form of disease. The history of these cases was somewhat obscure, and the causes which determined this action in the cerebral lobes, and the period at which suppuration actually commenced, were uncertain. Four of the cases were encysted; one was simple abscess, two were associated with caries of the temporal bone, one with suppuration on both sides of the cranium opposite to a sloughing wound of the integuments.

4. *Softening of a non-inflammatory kind.*—Only one instance of this form of lesion was recorded; its duration was five months; its progress was chiefly marked by the existence of hemiplegia, with indistinct articulation; the whole of the medullary substance on the left side was softened and diffuent; the brain appeared congested.

5. *Delirium Tremens.*—Ten fatal cases of this disorder were recorded. They were all of the male sex. The ages varied from twenty-nine to fifty-four. Various diseased states of other organs were noted, which probably exercised an influence, more or less decided, in causing the cases to terminate fatally. The heart was diseased in seven cases; the liver in six; the kidney in two. In four cases, tubercles were found in the lungs; once recent; five times in the form of a cretaceous mass. The membranes of the brain were congested in four cases; an excess of fluid was found under the arachnoid in eight cases. In six cases, the ventricles contained an excess of fluid. The substance of the brain was in the majority of cases "wet."

6. *Apoplexy.*—There were fourteen cases of this disease: nine males; five females. Seven cases from forty to fifty years of age; three from fifty to sixty; three from sixty to seventy; one over seventy years. Atheroma of the arteries at the base of the brain existed in seven cases; healthy in five. The heart was distinctly hypertrophied in seven cases; in all of these cases the kidneys were also diseased. The anatomical conditions in the brain were various: in one case, an old apoplectic clot under the arachnoid; in another case, turbid serum under this membrane; there was effusion of blood in this case, limited to two small clots in the third and fourth ventricles. In three cases, there was a good deal of blood effused at the surface, with large clots in the substance of the brain. In nine cases, the clots occupied a central position with reference to

the hemispheres. Distinct softening in the vicinity of the clot was found in five cases.

7. *Tumours*.—Of these were six cases: three males, three females; ages varied from twenty-four to forty-nine. Four were examples of encephaloid disease; two of encysted growths.

8. *Anomalous Cases*.—Two cases could not be referred to either of the preceding classes. There was no evidence of any anatomical lesion in the cerebral structures; while the symptoms during life were distinctly characteristic of brain disease. In one, the kidneys were in a state of degeneration, but the author doubted if albuminuria ever produced paralysis of one side of the face and strabismus, which preceded the stupor and coma, terminating fatally.

The author concluded by a general summary of the symptoms during life, in relation to the anatomical lesions recorded after death.

30. *Intermittent Diabetes, and the Diabetes of Old Age*. By H. B. JONES, Physician to the St. George's Hospital. (Proceedings of Royal Medical and Chirurgical Society.)—The author's object in this communication was to point out some phenomena connected with diabetes which he had not found mentioned by other writers. Preliminary to the record of the cases, the author offered some observations on the incorrect results obtained by calculating the amount of sugar present in the urine from the specific gravity. If diabetic urines were solutions of nothing but sugar in distilled water, the tables by Dr. Henry, and the amount of sugar calculated from the specific gravity, would give all the information required; but a multitude of other substances were present besides sugar, each of which was variable, and each of which might cause the specific gravity to vary, whilst the quantity of sugar might remain constant. To be accurate, therefore, the amount of sugar should always be determined by direct experiment, and never calculated from the specific gravity. Results were given, exhibiting the specific gravity, the amount of sugar calculated from solid apparatus, and the absolute amount of sugar obtained by direct analysis. On the subject of intermitting diabetes, the author observed that there could be little doubt that our knowledge of the nature of this disorder might be extended by means of accurate determination of the varieties in the amount of sugar in the urine passed at different periods of the day, and under different circumstances. His object in relation to this form of the disease was to record some cases in which, either from the medical treatment, or the regimen, or the natural course of the complaint, the variation in the amount of sugar was not from much to little, but from highly saccharine urine to total absence of sugar. The state of the urine a few hours after the sugar had disappeared, and an hour or two before it reappeared, was most especially worthy of attention, inasmuch as it might lead to a truer knowledge of the state of the system which preceded the commencement of diabetes. In intermitting diabetes, the disease might be seen beginning and ending, and the explanation of the state of the urine which preceded the appearance of the sugar and followed its disappearance must be included in the true theory of diabetes. Moreover, a better knowledge of the antecedent phenomena might enable us to ward off the disease, if not to treat it with more success. The records of seven cases of the intermitting form of the disease were given, and very minute particulars in several, illustrated the amount of sugar present in the urine at stated intervals in the twenty-four hours, as well as the influence of particular forms of diet on the proportion of sugar excreted. In these cases the state of the urine just after the sugar had disappeared was worthy of attention. A remarkable excess of urea was constantly found before and after the sugar disappeared; and although this might be attributed to the animal diet, yet the occurrence of free uric acid and oxalate of lime in the urine pointed most clearly to a state of indigestion which was every day to be found without any sugar appearing in the urine. The author offered the following theoretical contrast between ordinary and saccharine indigestion: Ordinary indigestion showed itself in a want of action on the sugar and starch taken as food, in consequence of which excessive acidity was produced—that is, the changes in the non-nitrogenous food were imperfect. Imperfect changes also occurred in the nitrogenous food; this

was made evident by an excess of urates and urea in the urine, and perhaps also by the formation of oxalate of lime. In diabetic indigestion the effect might be traced also on the two great classes of food. At first from the non-nitrogenous food sugar was formed instead of acid. Ultimately, if not simultaneously, sometimes the arrest of healthy changes extended to the albuminous food, and, instead of an excess of urates and urea, other products were formed, one of which was sugar. It was possible that some of these products might be found in the urine. Possibly benzoic acid, which is present in some cases of diabetes, in variable quantities, might be one of the new products. Whether this theory were true or not, it was of practical importance to remark the tendency to acidity in these cases of intermitting diabetes. In such cases, animal diet alone, or with alkalies, might stop the formation of sugar. It followed also, that, when oxalate of lime, uric acid, and excess of urea, were found in the urine, it was probable that the diabetes might be temporarily, if not permanently, removed. The occurrence or absence of these substances in the urine might lead to the recognition of the stage of the disease, and they might thus guide us in our prognosis and treatment. The second part of the communication related to the frequency of diabetes in old age. Reference is made to a paper, by M. Dechambre, on this subject, who concluded, from observations made on the urine of old people at the Salpêtrière, that sugar was habitually present in the urine of old people. The author gave the particulars of nine cases of diabetes in elderly people, and thought that the occurrence of this affection at the latter periods of life pointed also to the theory of diabetes as an indigestion resulting from an arrest of healthy changes in the food. The cases mentioned in this communication were, in the opinion of the author, opposed to the view of diabetes depending upon an affection of the nerves, or of the liver; and his daily observation led him rather to the view taken by Dr. Prout, that diabetes was an indigestion, and that it first affected the non-nitrogenous, and afterwards the nitrogenous, constituents of our food. As regarded treatment, whatever was beneficial for excessive acidity, was found equally serviceable in diabetes. Alkalies were used in all the cases with benefit. Small meals, free from sugar and acid and the substances that could give rise to sugar and acids, constituted the best diet. He found, also, that vegetable acids with alkalies were occasionally useful. In a foot-note, the author mentioned some experiments he had not yet published, determining the quantity of sugar in several kinds of beer and wine. Porter contained from 27 to 57 grains of sugar in each ounce of liquid; ale from 43 to 50 grains; beer 25 to 40 grains; port-wine 8.5 to 11 grains; sherry 2 to 4.7 grains; claret none. The absence of all sugar, and the presence of a little alcohol, caused claret to taste highly acid, while the quantity absolutely present was not more, sometimes less, than in other wines which have no acid taste, as, for example, most port wine.—*Med. Times and Gaz.* July 30, 1853.

31. *Diabetes Mellitus not Incurable.*—M. SCHUTZENBERGER, Professor of Clinical Medicine at the Faculty of Strasburg, has just published a case, which would tend to show that diabetes mellitus may, by appropriate treatment, be in some degree arrested, and the patients be restored to comparative health. M. Hepp, the chief pharmacien to the hospital, examined the urine almost day by day, and thus was the physician enabled to ascertain with great accuracy the progress of the case, and the influence of the treatment.

The patient is a countrywoman, forty-seven years of age, who, after enjoying good health all her life, grew gradually thin, lost her strength, and was tormented with great thirst and a most voracious hunger. She was admitted into the hospital on the 10th of November, 1851, and presented all the symptoms of the disease. From the 11th to the 14th, the patient was watched without any regulation as to the food or medicine, and she was noticed to feed largely. For the subsequent week, the food, which consisted of a quarter of a pound of bread, two chops, two eggs, and a small allowance of other meat, was carefully regulated, but no medicine given. In this week, the quantity of sugar diminished from seventy parts of sugar in a thousand parts of urine to fifty-six. An attempt

was then made to substitute gluten bread for the ordinary article, but the patient could not take it.

The use of opium was begun at this period, three pills, of a little less than half a grain each, being taken in one day, and the tolerance was soon sufficiently established to increase the number of pills to twenty per diem. The patient was taking at the same time fifteen grains of theriaca (an ancient compound having opium for its basis), and from fifteen to forty-five grains of bicarbonate of ammonia. With these medicines, and the above-mentioned diet, all the symptoms improved; the amount of urine did not exceed the fluids ingested, and the specific gravity became reduced from 1.0376 to 1.0278. The absolute amount of glucose excreted in twenty-four hours fell, at the end of a fortnight, from about half a pound to a little more than two ounces.

For the next three weeks, no change of importance took place; but, as it was noticed that the patient procured sweetened diet drinks, she was restricted to plain water, to weak solutions of carbonate of soda, or Vichy water. This change gave rise to a fresh diminution in the amount of glucose, which became reduced from half a pound, the original quantity excreted in the twenty-four hours, to two ounces, or 19.78 parts in a thousand parts of urine. The opium was left off on several occasions, on account of giddiness, somnolence, or gastric derangement, but the use of the medicines was always resumed in a short time.

On the 20th of January, 1852, almost two months after admission, bread was given up altogether, and on the next day the absolute amount of sugar fell to a little more than three drachms in the twenty-four hours. Finally, from the 22d to the 30th of January, glucose entirely disappeared; but it was now and then found again afterwards, varying from between a third of an ounce to two ounces in the twenty-four hours. These variations were all caused by errors of diet, and the patient generally confessed her irregularities. Milk had no influence on the amount of glucose; one pint a day produced no unpleasant effect, and the patient consumed besides, in the course of the summer, small quantities of olive oil and butter.

It would be tedious to follow up all the oscillations during the whole of 1852; suffice it to say, that for days together no glucose was excreted; it then used to reappear in the urine, and again vanish entirely. The general health improved in the meanwhile, and, at the beginning of 1853, the treatment by opium, alkalies, and the regulated diet, having all the time been carefully persevered in, the glucose disappeared completely from the urine, and the patient was able to resume the use of bread, of which she took from three ounces to a quarter of a pound a day, along with potatoes and vegetables. Glucose was only once noticed in the urine in February, 1853, but soon disappeared again.

The patient can now use a mixed kind of food without excreting any sugar, viz.: meat, a quarter of a pound of bread, and vegetables; but the tendency to relapse is certainly not annihilated, as was shown in February; which relapse was caused by the ingestion of a large quantity of potatoes. The health is good, the thirst is not troublesome, but the patient eats little, and the muscular system has certainly not recovered its former energy. In March, 1853, a little albumen was detected in the urine, but no sugar reappeared. The patient will be kept in the hospital to the end of next winter; and though M. Schutzenberger does not look upon the cure as completely radical, he thinks that relapses may be avoided by adhering to a diet composed of meat and feculent substances in regulated proportions.

Some facts, not mentioned above, in order not to interrupt the narration, are adduced by the author at the end of the paper. It was, for instance, noticed, that the sugar diminished considerably after a smart purgative; but the fecal matter then contained a large proportion of sugar, whilst the ordinary solid motions contained none. A chemical examination also proved the absence of sugar in the sweat and saliva of the patient. The author concludes his paper by the following series of rules and deductions:—

1. Glucosuria is not an incurable disease, and although the tendency to relapse is certain, it is possible, by perseverance, not only to remove the sugar from the urine, but also to bring the patients so far as to bear a varied diet, in which feculent substances may enter without causing a relapse.

2. The amount of glucose excreted by patients is sensibly proportionate to the quantity of feculent matter added to the food, and it is possible to discover errors of diet by the increase of the glucose in the urine. The quantity of urine is equal to that of the fluid ingested, and the latter also proportionate to the amount of the feculent substances taken into the economy.

3. Diet forms the principal part of the treatment of glucosuria; the food ought chiefly to consist of milk, fatty substances, butter, oil, eggs, and meat.

4. The entire banishment of feculents seems necessary to make the sugar disappear completely.

5. Small quantities of bread, viz.: about three ounces per diem, are generally well borne, and do not excite a fresh secretion of sugar when once it has disappeared.

6. The powers of assimilation increase gradually, and it is possible, by means of chemical analysis, to ascertain the extent to which the peculiar diet and medicine ought to be carried.

7. The effect of the diet is powerfully assisted by the use of certain therapeutic agents, and especially by opium, in increasing doses, and by alkaline drinks. In this affection the tolerance of the opium is very great.

8. It is certain that the glucose is formed in the alimentary canal, and that the absorbents generally take it up, so that solid motions come to contain no sugar.

9. Purgatives may cause a diminution of glucose in the urine, as more or less of the sugar which would have passed into the urine is carried away by the liquid stools.

The author does not enter into any theoretical discussion touching glucosuria, as his object was merely to call attention to a series of interesting and instructive facts.—*Lancet*, Aug. 6, 1853.

32. *The Relation of the Appearances in the Urine to Disease of the Kidney.*—There is, in *Virchow's Archiv.* v. 199, an interesting paper on this subject, by C. E. L. MEYER. Dr. M. attempts, by careful examination of the urine during life, and of the kidney after death, to resolve the following questions:—

1. In cases of mere catarrhal or fibrinous inflammation of the kidney, does the urine present appearances similar to those which occur in the more serious structural degeneration commonly called Bright's disease?

2. Can the first-named slighter inflammatory affections of the kidneys be detected during life, in the course of other diseases, by an examination of the urine, with the same frequency as they are found to have existed by inspection after death?

3. If the first question is to be answered in the affirmative, is there any possibility of distinguishing, in examination of the urine, between the changes induced upon it by the slighter, and by the more serious cases above mentioned?

The importance of these questions must at once be understood; and, in fact, we fancy that most practical men have already revolved them in their minds; for how often does it happen, in cases of scarlatinous dropsy, for example, that we observe the urine turbid, bloody, or albuminous, or pale, moss-water like, and also albuminous; in fact, presenting derangements much more remarkable than those accompanying many cases of incurable Bright's disease, and yet the patient, in the course of a week or two, restored to health, with sound kidneys, and urine perfectly natural?

In reply to the first question, our author concludes that, even in the slightest forms of inflammatory affection of the kidney, occurring in the course of other diseases, the urine is found to contain albumen and plastic coagula from the tubuli uriniferi, the latter of course to be detected in the fluid by the aid of the microscope; in fact, that there exists no case of such renal inflammation, without the consequent appearance of these coagula in the urine.

With regard to the information which may be gathered from the appearance of these casts of the urinary tubules, as to the actual condition of the kidneys, he finds that the greater their consistence and refractive power, and the less their solubility in muriatic acid, the more intense is the inflammatory action; while the greater their number, the more widely is it spread over the organ;

but that there is no constant relation between the quantity of albumen in the urine, as displayed by the usual tests, and the number of these casts.

The simpler inflammatory affections of the kidney may be of very short duration, the organ being very rapidly restored to health, or, on the other hand, they may last very long, and yet without inducing any deep-seated degeneration; and the answer to the third question above stated thus becomes most important. After a full examination of the point, our author comes to the conclusion that while, by the examination of the urine, we may generally distinguish between acute and chronic renal disease—the former giving rise more frequently to the appearance of blood and of small albuminous masses in the urine—we have no certain mode of distinguishing between chronic cases of renal catarrh or simple inflammation, and chronic cases of deep-seated Bright's disease. We are thus left to gather from the general symptoms the information which the simple examination of the urine will not yield us, and to study the condition of the patient with respect to anæmia, dropsy, vital power, duration of the disease, etc., before coming to a conclusion.

Here we are reminded of the great principle which we endeavoured to inculcate in our introductory article on microscopical discovery and its use in practical medicine, that all special means of investigation, whether by the stethoscope, the test-tube, or the lens, are always by the good and safe physician held in due subordination to the great radical principles of our science, and thus only can they be considered as more than a delusive *ignis fatuus* by the bedside.—*Assoc. Med. Journ.* Aug. 5, 1853.

33. *Ergot of Rye in some forms of Retention of Urine.* By M. Passot, of Lyons.—Ergot of rye has not only the property of exciting the uterine contractions in cases of inactivity of the uterus, but is also very efficacious in the retention of urine which is caused by atony and paralysis of the bladder. MM. Baudin and Payan of Aix were the first who endeavoured to demonstrate that this agent does not act on the uterus alone, but rather on the lower part of the spinal cord. They also speak very highly of it as well in the affection which we have now under consideration, as in weakness or paralysis of the lower extremities.

Drs. Kinsley, Canuto-Canuti, Sainmont de Rocroy, Allier of Marcigny, have also recorded cases which bear favourable testimony to the utility of ergot in paralysis of the bladder. I will now briefly mention some of them:—

Captain B., aged 60, suffering from dysuria, which had increased greatly during the last three months, until it suddenly changed to a complete retention, which necessitated the employment of the catheter several times a day. For two months a host of remedies were used without avail; there was not the slightest improvement. The prostate became enlarged, and the patient suffered much from the use of the catheter, which had to be passed twice every day.

Fifty centigrammes (about eight grains) of ergot of rye, infused in a cupful of boiling water, was administered three times a day. At the expiration of six hours, the patient passed a small quantity of urine, and required the use of the catheter only once in the day. Afterwards it was only passed once in the forty-eight hours, and after ten days the bladder was left to itself (*Kinsley's Journal des Com. Med. Chir.* March, 1844).

A lady, aged about 75, was affected with paralysis of the bladder, which for a long time required the use of the catheter. Ergot was prescribed in doses of fifteen decigrammes (about twenty-eight grains) in infusion. On the sixth day of this treatment, it was no longer necessary to pass the instrument, the patient being able to pass water spontaneously (*Canuto-Canuti, Bull. des Sciences Med. de Bologne*, 1845).

A man, named Rousseau, aged 58, of a nervous temperament, was, in consequence of a fit of passion, attacked with a complete inability to urinate. The bladder was obliged to be emptied by the catheter. The inertia of this organ continued in spite of cold injections into it, cold enemata, the application of ice, also a blister to the hypogastrium.

Strychnia applied, by means of ointment, as a dressing to the blister, also by frictions in the axillæ, on the following day produced cramps in the legs

and arms, and was presently accompanied by stiffness, so that it became necessary to discontinue the use of this remedy. There was not the slightest action on the bladder. It was at this stage that the author conceived the idea of giving ergot of rye. He prescribed six grammes (about ninety-two grains), coarsely powdered, to be put into a litre (about thirty-four ounces) of water, macerate for two days, filtered, and injected cold into the bladder. Seven minutes afterwards the patient experienced a desire to urinate, which, however, he could not then satisfy. The next morning the injection was again administered. Eight minutes after he had vesical tenesmus, and then spontaneous emission of urine. The injections were continued for some days. The cure was complete. (*Sainmont, Gazette des Hôpitaux*, 1848.)

In 1848, Dr. Allier, of Marcigny, sent a letter to the National Academy of Medicine, in which he gives as the result of his observations, that in only one out of fourteen cases ergot proved of no use.

I also am in possession of some cases which, in an incontestable manner, prove that ergot is capable of restoring the contractility of the bladder. The following is the most remarkable: In the month of July, 1846, I was consulted by M. H., aged 60, of a dry constitution and a very well-marked nervous temperament. M. H. admits having indulged both in venereal excesses and in the excesses of the table, and it is these that he blames for the vesical paralysis from which he is now suffering, and which requires the catheter twice a day; otherwise there is no symptom of organic alteration, no fever, no enlarged prostate. The canal of the urethra is free through its entire length, and the urine when drawn off is perfectly clear. After having experienced the uselessness of tincture of cantharides and blistering the hypogastrium, I used the following prescription:—

Freshly powdered ergot . . . 2 grammes (30 grains).
 Mucilage 120 " (31 ounces).
 A tablespoonful every half hour (shake the bottle).
 Ergot of rye, powdered . . . 15 decigrammes (23 grains).
 Cocoa butter a sufficiency.

To be made into two suppositories; one of them to be introduced night and morning.

On the same day, at the expiration of some hours, M. H. felt a desire to micturate. At my evening visit, I ordered a bath. The patient was scarcely in it before micturition took place spontaneously and with force. From this time to his death, M. H. has always passed water freely and without the assistance of the instrument. I should add that, to make certain of the cure, I continued the remedy for three or four days, but in a decreasing dose. M. H. died the 30th of January, 1848, of an acute pleuro-pneumonia, during the course of which not a single morbid symptom appeared in the bladder. It is therefore certain that ergot cures retention of urine which depends on pure and simple atony or paralysis of the bladder. But with regard to paralysis consecutive to apoplexy, or depending on other affections of the nervous centres, it is well known that they are unaffected by the remedy we are treating of.—*Dub. Med. Press*, June 29, 1853, from *Gaz. Med. de Lyon*.

34. *Croup and Tracheotomy.* By Dr. KARL WEBER.—Two cases of croup are related. In the first case, the symptoms on the sixth day were desperate; tracheotomy was performed, and the treatment (calomel every three hours) was persevered in. The symptoms were immediately alleviated, and the wound had closed on the twentieth day. In the second case, croup came on after measles; tracheotomy was performed on the ninth day; the patient died on the forty-sixth day, and after death it was found that the canal of the trachea above the canula was completely closed. This was discovered first of all when, on the tenth day after the operation, the symptoms being exceedingly favourable, the canula was removed; immediate suffocation ensued, and the canula was reinserted. Farther operative proceedings were contemplated, when the child suddenly died, not from asphyxia, but from an undetermined cause. The larynx and trachea were removed, but no farther examination of the body was permitted.

The larynx, examined and described by Henle, was healthy till below the lower vocal cords, where there was complete closure by means of a vascular, firm, white substance, torn with difficulty, and constituted partly by uniting tissue, and partly by a similar forming structure. The mucous membrane could not be found. The fistulous opening formed by the canula was clothed with smooth plicated membrane, resembling a mucous membrane, and covered with flat nucleated epithelium cells 0.008" in diameter). The thyroid and cricoid cartilages were peculiarly changed, but their condition can hardly be understood without the figure, which is given in the original.

"The thyroid normally formed on the upper border, and on the under border on the left side, shows on the left, near the middle line, an irregular and rough cartilaginous prolongation, which arises out of and is articulated with the rudimentary cartilaginous ring. On the right side, the under border of the thyroid is obliquely cut off, and bears, instead of the lower horn, a broad articulating surface, with which an oblique four-sided cartilaginous piece is movably joined, but not by an articulation."

The cricoid was formed by four pieces, two of which were perhaps divided by the operation, and the forms of which are given in the plate, but can hardly be described. Henle considers this condition as an original malformation, but thinks that it gave rise to the obliteration after the operation.

To this account, Weber adds some general considerations on croup and tracheotomy. He believes that in true croup there is always exudation in the larynx.

The Diagnosis.—The only disease with which croup can be confounded is the laryngismus stridulus, or false croup. This is, however, distinguished by the want of precursory symptoms, by the suddenness of the attacks, which frequently occur in the night, and by the remissions. True croup commences gradually, and the severe attacks never come on till the illness has lasted some little time; there are no true remissions or intermissions, as in laryngismus; in which disease the child, after a severe attack at night, may appear the next day perfectly well. The voice is another distinction, as the natural tone is regained after the attack of laryngismus, but never in croup. True croup never relapses; laryngeal cramp often. Weber believes croup to be probably contagious, and to be epidemic.

The Prognosis.—Jurine states that 25 of 28 were cured; Boudet, on the contrary, from the records of the Hôpital des Enfants Malades, states that 57 children died out of 63. Guersant saw 80 die out of 100. Weber believes these latter statistics to be the correct ones, and that the more favourable result obtained by Jurine and others arose from the inclusion of cases of laryngismus, which is a rarely fatal disease, but of the mortality of which there are no certain statistics.

The Treatment.—Emetics are used as abortive treatment, but, Weber thinks, with little success; the local applications of irritating substances, such as nitrate of silver, is much more efficacious, and Weber speaks highly of its use. Blisters are discountenanced; leeches are considered to be of only very moderate utility, or to be even hurtful, by reducing the strength without having the least effect on the exudation of the pseudo-membrane. General antiphlogistic treatment is said to be useless; but calomel is spoken of as being extremely useful, both given internally and used as inunction.

Tracheotomy is strongly recommended, and the statistics of Trousseau are relied upon, which give the extraordinary number of 222 operations and 127 cures. Trousseau operates early, and introduces a solution of nitrate of silver (10 grains to 3j of water) into the trachea. This appears to be an important modification, and to have an immense effect in loosening the membranous exudation.—*Brit. and For. Med.-Chir. Review*, July, 1853, from *Henle's Zeitschrift*.

35. *Topical Treatment of Hooping-Cough.*—The number of the *Association Medical Journal* for 26th of August last, contains an interesting paper on this subject, by Dr. EBEN WATSON, Professor of the Institutes of Medicine in the Andersonian University, Glasgow.

Six years ago, he states that he began to use topical applications to the pharyngo-laryngeal membrane in cases of hooping-cough, in hopes of mitigating

the paroxysmal spasms of the glottis, which forms so important a feature in the disease; and being well satisfied with the results of the treatment, he published an account of it, with his theory of the disease, in the *Edinburgh Monthly Journal of Medical Science*, for 1849.

"All experience," he says, "bears me out in stating that the first and second stages of whooping-cough are marked by catarrhal inflammation of the larynx, trachea, and bronchi. In severe cases, this inflammation involves the whole thickness of the mucous membrane, and may even spread to the minute air-tubes, or to the pulmonary cells, before the spasmodic stage has well commenced. More or less speedily, however, the pharyngeal and bronchial branches of the vagi nerves become involved in the morbid action. It is a common opinion that this nerve becomes inflamed; but we are not warranted by the results of *post-mortem* inspections, nor by any data of 'living pathology,' in assuming that opinion as proved. At all events, a small amount of inflammatory action, such as may be called irritation, is sufficient to account for the symptoms of the second stage, in which the whoops occur. This feature in the pathology of whooping-cough is interestingly proved by Romberg (*Diseases of the Nervous System*, Sydenham Society's edition, vol. i. p. 349), by experiments on the lower animals, performed by himself and others. But probably the cases which happened to Sir Astley Cooper and to M. Gendrin, both shortly stated by Romberg in the passage referred to, may be still more convincing to most minds. They were cases of inflammation, the one of the parotid gland, and the other of an aneurismal sac, in the vicinity of the pneumogastric trunk, and occasioning paroxysms of cough and dyspnoea. To these we might add the cases of small bodies, such as fish-bones, etc., sticking about the pharynx, and causing similar symptoms, many of which are now on record.

"It would seem, then, to be satisfactorily proved that the morbid agent in cases of whooping-cough commences its operation by producing inflammation of the pharyngeal and bronchial mucous membrane; and secondarily, irritation of the pneumogastric nerves. Now, it is obvious that such cases only differ from ordinary bronchitis so far as their mechanism is concerned, in the amount of irritation produced in the pneumogastric nerves. In ordinary bronchitis, this is nothing more than what will suffice to produce those expulsive efforts in which coughing consists; while in whooping-cough it is so great as to excite again and again a spasmodic closure of the glottis, which at once prevents the expulsion of the offending mucus, and so impedes inspiration as to occasion the well-known crowing sound that accompanies the act. In this stage, the stomach likewise becomes affected, and vomiting is a common termination of a fit of coughing; but this is easily explicable on the acknowledged truths of physiology—the irritation of any one set of branches, or of the trunk of a nerve, being capable of producing action in organs supplied by other nerves having a common centre, and, *à fortiori*, by other branches of the same nerve-trunk.

"Two questions are yet necessary to be considered, in order to complete a theory of whooping-cough. These are: first, In what relation does it stand to its so-called complications? and second, What is the nature of the agency which starts the train of morbid effects of which we have been treating?

"There would be little need of remark on the first of these points, were it not that almost all its attendant symptoms have been considered as part of the disease, and not as complications at all. It is indeed difficult to draw the line of demarcation between the bronchial inflammation which is essential, and that which is accidental to the whooping-cough; but, as we have certain well-marked cases of the latter, in which the former state is either absent, or confined to the pharyngo-laryngeal membrane, I think it fair to consider all inflammatory action beyond that as complicating the primary disease. The same, in my opinion, is true of inflammation of the air-cells, and still more so of those complications which cannot be considered as extensions of the primary effect of the morbid agent. I refer to cerebral and abdominal complications, to dilated bronchi or ruptured vessels, all which may be traced, more or less directly, to the violence of the paroxysms of dyspnoea.

"On the second point, I have only to remark that the almost invariable occurrence of whooping-cough once in the life of every person exposed to its in-

fluence, its exhausting his susceptibility to suffer from it in the first attack, and its undoubted communicability from one patient to another, in the same manner as other diseases which are usually considered infectious or contagious, warrant the common belief that the disease is due to the operation of a morbid poison in the blood, the effects of which are manifested in the manner formerly explained. This poison seems to circulate in the system for a time before producing decided symptoms of the disease. About eight days usually elapse, during which the patient is affected with fever and other symptoms of common catarrh, before the stage of hooping commences at all. But as soon as the spasmodic stage is fairly established, all the symptoms of general disorder in most cases subside; and unless some complication occur, the disease remains, during its future course, a local affection of the larynx and bronchi, without any evidence of a morbid condition of the circulating fluid. I think it more than likely, then, that the poison of hooping-cough is generally eliminated or rendered innocuous by the time that the spasmodic stage of the disease has reached its acme."

"Not long ago," Dr. Watson states, "I treated two children in the same family, who were attacked at the same time by the hooping-cough. The one was a baby at the breast, and was very severely affected, insomuch that his life was for a time in danger. I began the topical treatment about the middle of the spasmodic stage; and in eight days he had ceased to hoop, and in a short time to cough at all. His sister, the other patient, was about two years and a half old, and apparently much less severely affected with the hooping-cough; but she had just recovered from an attack of croup when she was seized with that disease, and at first her cough had much of the croupy sound. I treated her *pari passu* with her brother; and yet her disease continued two weeks longer than his.

"On the other hand, I have known of cases irregularly treated by the topical method, in which the inflammatory element was subdued, and in which the hooping continued, though in a mild degree, for a considerable time longer. But the most convincing proof that the solution of caustic has a decided and sedative influence on the spasmodic element of hooping-cough, or, in other words, on the excited state of the extreme branches of the vagi nerves in the throat and larynx, is the fact, which my experience demonstrates, that the topical plan is most speedily effectual in the last stage of the disease, when all the previous symptoms of inflammation have disappeared, and the hoop alone remains. I have seen a number of such cases, in which the children seemed worn out by the disease, and in which general remedies had been long but vainly employed. In all these cases, the very first touch has a markedly beneficial effect; and its repetition for a comparatively few times suffices to perfect a cure.

"When, however, we remember how much the nerves of any part are implicated in its inflammation, it may be, after all, that the affection of the pharyngeal and bronchial nerves, which occasions the spasmodic paroxysms of hooping-cough, is of the same nature; and that we are warranted in agreeing in the main with M. Joubert, that the topical application of solution of caustic operates solely in subduing inflammation. Since, then, that morbid state exists in the bronchial mucous membrane as constantly in cases of spasmodic asthma¹ as in those of hooping-cough, the rationale of the topical remedy becomes reduced to the counteraction of only one morbid state; and we may call it an antiphlogistic sedative of the pharyngo-laryngeal mucous membrane. But this, in my opinion, can only be said with truth of the less sthenic degrees of inflammation, as I have explained in another paper (*Dublin Quarterly Journal of Medicine*, Aug. 1852). The practical rule, however, remains importantly true, that the remedy should be continued so long as the slightest hoop is heard, although all the ordinary symptoms of inflammatory action, such as bronchitic râles or bulky expectoration, have been subdued for some time. If this rule is not strictly attended to, a relapse will ere long be the consequence; and the treatment will

¹ I have recommended the topical treatment of the larynx in cases of spasmodic asthma, in another paper. See *Glasgow Medical Journal*, No. I. p. 37; and the "Periscopic Review" of the *Association Medical Journal*, No. XXI. p. 462.

have to be continued nearly as long as if it had never been commenced at all. But if the disease be thus thoroughly subdued in its first attack, no recurrence of it need be apprehended during the patient's life. I make this statement in full knowledge of the succeeding history of all the cases in which I have employed the topical treatment; and many of them have been again freely exposed to infection.

"Regarding the mode of prosecuting this topical treatment, I may now be allowed to make a few remarks, suggested by the statements or objections of other physicians, which I have either read or heard expressed in conversation.

"1. The most convenient instrument for applying any solution to the throat or larynx, is the sponge and whalebone. The forceps suggested by Dr. Cotton, and which has one limb covered with sponge, is needlessly complicated, and much more apt to injure the delicate glottis. Nor is it fitted to obviate the supposed danger of the detachment of the sponge in the windpipe of the patient, which gave rise to the idea of Dr. Cotton's instrument at the first. It is, indeed, quite a mistake to think that there is any strain upon the sponge, when once it is within the larynx. That organ cannot contract so as to detain the sponge; and it must have been very carelessly fixed on the whalebone, if the glottis could detach it during its withdrawal. Indeed, a skilful operator will seldom feel the contraction of the glottis at all; for, as the patient inspires immediately on the introduction of the sponge into the larynx, the muscular valve becomes relaxed, and permits its easy withdrawal. The strong contraction which I have myself often felt, and which I have known many to mistake for that of the glottis, is in reality a proof that the sponge is not in the windpipe at all, but is caught by the pharynx immediately behind it. And this gives colour to the amusing story of the musician, whose larynx was being touched by a learned physician, who, on withdrawing the whalebone, found it destitute of the sponge. The physician was in great alarm; but the patient neither choked nor died. Ere long, however, he vomited the sponge from his stomach. It had been caught by the pharynx, and swallowed.

"If the instrument is at all well made, this could never happen, except from one circumstance, which ought to be known by every person who attempts the topical treatment of the larynx, especially among children. It is, that the caustic solution in a short time destroys the thread with which the sponge is fastened to the whalebone. The simple and certain way, then, of avoiding any such accident as that to which I have been referring, is to have the sponge frequently renewed.

"2. It would appear, from the following passage, that M. Joubert supposes me to have recommended the indiscriminate employment of a solution of the nitrate of silver of *uniform* strength: 'Il n'y a pas une grande différence entre le procédé opératoire suivi par M. Joubert et celui de M. Watson; seulement le premier emploie des solutions concentrées à des degrés différents, depuis 1 gramme jusqu'à 4 grammes de nitrate d'argent pour 30 grammes d'eau distillée, et qu'il désigne par les numéros 1, 2, 3, 4.' (*Bulletin de Thérapeutique*, tom. xlii. p. 41.) Now, saving the designation of the solutions by the numerals 1, 2, 3, and 4, which is doubtless a convenient plan when employing them on a large scale, there is no novelty in this practice of M. Joubert. For, in my original paper on the whooping-cough (*Edinburgh Monthly Journal*, Dec. 1849), I distinctly state that 'the ordinary strength of the solution which I have used in the treatment of whooping-cough, is gr. xv of the nitrate of silver to the ounce of distilled water; but, in some cases, I have with advantage increased it to ʒij of the salt in the ounce of water.' From an enlarged experience of the treatment in question, I can now be still more precise; for I have found that in the early stage of the disease, and just in proportion to the intensity of the inflammatory process which may be present, so ought the solution employed to be proportionally *weak*. Afterwards, when the nervous symptoms predominate, the solution may with advantage be strengthened; but it is impossible to lay down rules that will universally apply to different cases, or even to the same case on different days. This must be left to the judgment of the practitioner; and he will find it quite necessary, for the favourable progress of the case, that

he should use his discretion in regard to it, as much as to the administration of emetics or laxatives.

"3. Dr. Scott Alison has lately drawn the attention of the profession to the application of several other substances to the larynx; and perhaps some of them, such as solution of morphia, may be occasionally used with advantage in cases of hooping-cough. I merely make this as a suggestion; but I have, from some little experience of its effects, a better-founded opinion of another substance, which has not hitherto, I believe, been used as a topical application to the larynx. I refer to the hyposulphite of soda and silver, to which my attention was first directed by a notice in the *Medico-Chirurgical Review* (No. XXII. p. 567). This salt has a very soothing effect on the larynx, when its lining membrane is irritated by a vitiated, and, as is generally the case, an acid secretion; and I entertain the hope that its solution will form a useful topical application in the first stages of hooping-cough. I intend, however, in due time, to lay before the profession a fuller account of a trial, which I am at present making, of the value of this salt in laryngeal cases.

"4. In some cases of hooping-cough, an obstacle is presented to the topical treatment, by a state of matters which is, in other respects, by no means unfavourable to the patient. I mean the irritability of his stomach, which makes the slightest touch of the sponge in the throat the signal for violent retching and vomiting, if the stomach be full. I very often, therefore, find it necessary to prescribe for this symptom frequent small doses of heavy magnesia, combined sometimes with a few grains of the trisnitrate of bismuth. Such simple treatment seldom fails to mitigate the vomiting sufficiently to admit of the continuance of the topical applications.

"5. These applications should be renewed at least every second day; but, if their commencement has been delayed till the disease is at its height, or if the hoops are very violent from the first, they should be repeated more frequently; and, for the reason stated above, the time of making them should be selected so as to have the stomach empty; and the patient should not be allowed to eat for an hour or two afterwards, else the feeling of rawness in the throat, which follows each application of the remedy, will be unnecessarily increased, and occasionally hooping and vomiting will be induced.

"6. In making these applications of solution of caustic to the throats of children, everything in the shape of a formidable spatula should be dispensed with, and either a common teaspoon, or the index-finger of the left hand, should be used. In all cases in which it is important to pass the sponge into the larynx, I consider it quite necessary to introduce the finger into the patient's mouth, and to touch with it the tip of the epiglottis, along the surface of which the instrument may be glided down with certainty to the rima glottidis. And if this proceeding be performed at once with firmness, few children either can or will resist it by struggling, or by biting the operator's finger; but much patience and tact is sometimes necessary to school them to submission in the beginning of the treatment. After a few times, no more trouble is experienced.

"Pursued in this way, with these precautions, and with a prudent attention to the diet and regimen of the patients, the topical treatment of hooping-cough wonderfully shortens the disease, and renders it nearly as mild as ordinary catarrh. Complications seldom occur, and thus the disease is stripped of its most formidable characteristic. Hence it is that I can give the following favourable numerical account of the results of the treatment in question:—

	Cured within a fortnight.	Cured in 3-4 weeks.	Resisted treatment.	Total.
M. Joubert's cases	40	20	8	68
Cases treated throughout by myself	46	20	..	66
	86	40	8	134

"In contrast with this table, I subjoin another, of the ordinary duration of the disease when treated in the usual manner, as stated by a few of our best and most recent authorities:—

"Dr. R. Williams¹ states it at from 2 to 4 months, or more than a year.

Dr. Copland² states it at from 82 days to 5 months, or more.

Dr. C. J. B. Williams³ states it at from 6 to 10 weeks, or more.

Dr. Walshe⁴ states it at from 8 to 18 weeks, or more.

Dr. West⁵ states it at from 8 to 14 weeks, or more.

MM. Barthez et Rilliet⁶ state it at from 1 to 3 months, or more.

Average of all the statements, from $1\frac{1}{2}$ to $3\frac{1}{2}$ months."

36. *Nature and Treatment of Hoarseness.*—The following is an abstract of the views of M. TROUSSEAU on the above subject, as given in the *Journal de Médecine et de Chirurgie Pratiques* for last February:—

Hoarseness almost always depends on hyperæmia of the laryngeal mucous membrane; but, in order to cure this condition, not only must it be attacked in its seat, but the circumstances in which it has been produced must be ascertained—whether it is a continuation of inflammation of the pharynx, mouth, or nasal fossæ, in which case it may be often sufficient to apply remedies to these parts.

Among the inflammatory affections of the pharynx which are most frequently propagated to the larynx is chronic or follicular pharyngitis; the characters of which are enlargement of the mucous follicles, slight œdema and redness of the velum palati, with a certain amount of elongation of the uvula. This form is almost always of rheumatic origin, and appears at the end of an attack of apyrexial rheumatism which has lasted three weeks or a month. It recurs a great number of times, and leaves its effects on the pharynx in the form of hypertrophy of the mucous follicles. Generally, however, the inflammation of the pharynx itself proceeds from the mouth or the nasal fossæ. Thus, just as in the child the cutting of a tooth will produce cough by extension to the bronchi of the inflammation of the gums, carious teeth will produce an analogous affection in the adult, by producing a change in the voice, which is only removed by the extraction of the diseased tooth. Cases of this kind frequently came under the notice of M. Trousseau. A distinguished *cantatrice* lost her voice for two years, and recovered it only after two wisdom-teeth had been extracted.

There is also an eczematous affection of the nasal fossæ, which is easily propagated to the pharynx, the Eustachian tubes, and the larynx. There are also persons who are constantly the subjects of nasal catarrh; and in these, the catarrh is propagated to the pharynx and larynx. The vocal cords, softened by the thickening of the mucous membrane, then cease to vibrate, and mucus is deposited in the ventricles of the larynx.

Treatment.—If the pharynx is the primary seat of the disease, M. Trousseau employs strong stimulants to that region. The best of these is a solution of one part of nitrate of silver in three of water. This is applied daily for a week, by means of a brush, to the arches of the palate, to the palate itself, and to the tonsils. It is afterwards repeated three times, twice, and once a week; and once a fortnight for some months. This treatment should be applied more perseveringly in proportion as the hoarseness is of old date, and should be continued after the voice has returned, without, however, paying regard to the hypertrophy of the follicles, which sometimes lasts for an indefinite period after chronic pharyngitis. If, from any reason, this mode of treatment cannot be adopted, the patient should be taught to accustom himself to touch the pharynx with the index-fingers—the right finger for the right side, and the left for the left side. When this can be done, the patient will be able to apply with his fingers a powder composed of one-fourteenth of a grain of white precipitate and ten drachms of powdered sugar. If this remedy, which is very effectual, fail, alum gargles may be used. Many singers use the gargle of Bennati, an old Italian physician, half an hour before entering on the stage, when they are

¹ Williams on Morbid Poisons, vol. i. p. 311.

² Dictionary of Medicine, pp. 236, 237.

³ Library of Medicine, vol. iii. p. 94.

⁴ Walshe on Diseases of the Chest, pp. 418, 419.

⁵ Lectures on Diseases of Children, p. 279.

⁶ Traité Pratique et Clinique des Maladies des Enfants, 2me edition, tom. ii. p. 624.

labouring under hoarseness from subacute inflammation. The following formula is given by M. Trousseau: Alum, from 10 to 30 parts; water, 500 parts; honey or mulberry syrup, 100 parts. Whatever gargle is employed should be used as hot as it can be borne; cold gargles are useless.

In a very large number of cases, the pharyngeal affection is of an herpetic nature. In a person, for instance, who has had eczema of the nose, the disease may have produced union of the nasal fossæ with the pharynx and the Eustachian tubes; thus giving rise to obliteration. If eczema of the nose is still present, and coryza appears under the influence of cold or after meals, the hoarseness must be treated by applications to the nasal fossæ. One part of sulphuret of potassium is dissolved in one hundred parts of water, and a teaspoonful is put into some very hot water, and forcibly inhaled by the patient for some minutes, three times a day. The same solution, in a larger proportion to the water, is to be used at the same time as a gargle.

In cases of this nature, sulphureous waters also are very useful, taken two or three times a day. The patients may also be made to take into the nose small pinches of white or red precipitate.

Some changes in the voice are only to be benefited by direct treatment, viz. inhalation of arsenic and cauterization with a strong solution of nitrate of silver. Cauterization is sometimes difficult; and in this case, the use of arsenicated cigarettes is more simple, and not less efficacious. The cigarettes are made with one part of arsenite of potash to twenty-five of water; in this, some filtering paper is dipped, then rolled into cigarettes, and dried. These must be smoked slowly—eight or ten inspirations each time, three times a day. The metallic arsenic is condensed on the larynx.—*Assoc. Med. Journ.* July 8, 1853.

37. *Veratria in Acute Articular Rheumatism.*—According to the *Union Médicale* for April 2, MM. TROUSSEAU and PIEDAGNEL, of Paris, have for some time employed veratria in the treatment of acute rheumatism. Its introduction appears to be due to M. Piedagnel, who states that, from the observation of numerous cases both in hospital and private practice, he finds that rheumatism is in this way generally cured in seven or eight days. He administers the veratrin in the form of pills, each containing five *milligrammes* (about 1-13th of a grain). Of these, one is taken on the first day, two on the second, three on the third, &c., up to the sixth day; it is rarely necessary to give seven pills. When the general and local symptoms have abated, which generally takes place on the fourth, fifth, or sixth day, the dose is maintained for two or three days at the point at which it had arrived, and is then gradually decreased daily, as the symptoms disappear; and when, after four, five, or six days of convalescence, the cure seems perfect, the medicine is discontinued.

If, during the administration of this medicine, colic, diarrhœa, or vomiting appear, indicating intolerance of the medicine on the part of the gastro-intestinal mucous membrane, no larger dose must be given than can be taken without producing this effect.

A great recommendation of this medicine, according to M. Trousseau, is the lowness of its price, especially as compared with that of the disulphate of quinia.

The following is an outline of some cases treated on this plan by M. Trousseau, in the Hôtel-Dieu.

CASE I. M., aged 17, had acute articular rheumatism, with endocarditis. All the joints of the upper and lower limbs were affected. Veratrin was administered, and the disease began to be subdued in three days. She left the hospital four weeks after admission; having remained there fifteen days after the disappearance of all symptoms, in order that the permanency of the cure might be established.

CASE II. B., aged 37, a day-labourer, had had rheumatism several times. He was admitted on March 12, 1853, with acute articular rheumatism affecting most of the joints. The heart was unaffected. He took the veratrin in the manner described above until March 22, when M. Trousseau discontinued it, in consequence of the presence of gastro-intestinal disturbance. The next day, the rheumatism, which had nearly left him, began to return in several of the

joints. M. Trousseau then ordered four pills to be taken; after which he rapidly recovered.

Two other instances are related of acute articular rheumatism; in these, veratrin was employed with similarly favourable results.—*Assoc. Med. Journ.* Sept. 2, 1853.

38. *Electricity in restoring Animation after its Extinction by Chloroform.*—M. JOBERT DE LAMBALLE read a paper on this subject before the Academy of Sciences. After administering chloroform to several animals until it produced apparent death, he applied the galvanic pile, and, by operating with properly graduated shocks, succeeded in restoring animation. But, in some instances, such a length of time elapsed before recovery that fears of a fatal result were entertained, which, however, were dissipated by perseverance in the application of the battery.—*Lancet*, Sept. 10, 1853.

39. *Employment of General Frictions in Chlorosis.* By M. ARAN.—This disease is almost exclusively treated by iron, only some practitioners even adding to this good diet, exercise, and insolation. By others, iron is regarded as necessary for its cure, as is quinia in ague, or mercury in syphilis; while not only is it not indispensable, but in certain cases it entirely fails, exerting no influence upon the affection, and, if persevered in, inducing congestion of the viscera, especially of the lungs, which may give rise to hæmoptysis. In a much larger number of cases, ferruginous preparations are well supported at first, and produce marked amelioration; but after awhile such amelioration becomes stationary, and, however much the dose may be increased, the patient is not prevented from falling back into her former state. Such patients are sometimes seen, although gorged with iron for months or years, still exhibiting all the characters of chlorosis. Dr. Aran has found that, by the employment of *dry and stimulant frictions*, aided by good regimen, and in some cases by wine *lavements*, these obstinate cases may be very satisfactorily treated, when iron has failed. Either flannel or a brush may be used, and occasionally a stimulating fluid, such as spirit of camphor, or some ammoniacal preparation, may be added, so as to induce rubefaction. The frictions should be continued for five or ten minutes, every night and morning, being chiefly directed along the back and limbs. In a few days, a marked modification of all the functions is produced. The patient becomes more lively and alert, her countenance acquires colour, and appetite, flesh, and strength begin to return, and that although no internal medicines whatever have been employed. In some cases, in which progress is not so rapid, vinous enemata are of great service.—*Brit. and For. Med.-Chir. Review*, July, 1853, from *Bull. de Thérapeutique*, tom. xliii.

40. *Use of Chloroform in Hooping-Cough.*—Dr. FLEETWOOD CHURCHILL, in a letter to Prof. Simpson, published in the *Monthly Journal of Medical Science* (Aug. 1853), alludes to his having mentioned, in his work on Diseases of Children, his having tried the inhalation of sulphuric ether in hooping-cough, with great benefit, in about a dozen cases, and states that he has since tried chloroform with equal benefit. But he always found, he remarks, "two obstacles to its full and fair administration to young children. In the first place, you cannot get them to give notice of the approach of a cough, so as to enable you to have the chloroform in readiness before the paroxysm commences; and when the paroxysm has commenced, as it consists of eight or ten expirations to one inspiration, the chloroform will have evaporated before it has been fairly inhaled. And secondly, young children have such a horror of anything near their mouths during the cough, that they will resist your trying the chloroform as much as possible, until they themselves have felt its power in relieving the cough. Owing to these two causes, and perhaps also to a want of clever management on the part of the mother, we shall find it fail altogether occasionally, and in other cases only partially succeed; but when it is fairly tried, as I have already remarked, its use is most beneficial.

"I have all along felt very anxious to try it in young persons of twelve or fourteen years old and upwards, because with them we can avoid the two diffi-

culties I have mentioned; but it was not until this year that I had an opportunity. Four cases have come under my care, and the results are as follows:—

"CASE I. Miss D., *æt.* 16, had had hooping-cough a month, when I prescribed chloroform. There was no complication, but the hooping was frequent, especially during the night. She was directed to have the chloroform in readiness, and to use it with each paroxysm; and she assures me that in two days the hoop ceased. The cough lasted a few days longer, but it was slight, and not in kinks.

"CASE II. Miss A., *æt.* 20, had been ill with hooping-cough for about three weeks, when I prescribed chloroform. The cough was not very frequent, and there was no complication. Two days sufficed with her also to relieve her of the hoop; and the slight cough which remained subsided after a week or ten days.

"In these two cases, the effect seemed quite magical; both had the disease well marked, and the families of both were prepared for a disease of two or three months' duration, as was the case with these other children.

"CASE III. Miss B., *æt.* 18, took the complaint from her brother, whom I was attending, and I therefore had an opportunity of giving chloroform from the commencement. She did not hoop any time she coughed; but she was directed to use the chloroform whenever she felt the tickling in the larynx, without waiting for a cough. By doing so, she found that she could postpone the cough indefinitely; and if it came on suddenly, the use of the chloroform instantly suspended it. About three weeks elapsed, before the tendency to cough and the use of chloroform ceased; but during that time she lost neither appetite nor flesh. She slept well, was in good spirits, and able to follow her usual occupation. She went to the country quite well.

"CASE IV. Master B., *æt.* 16, the brother of the last case, when I first saw him, had the disease most severely. The kinks were violent and prolonged, the efforts to inspire and the hoop excessive; it really seemed as if he would be choked, or that something would give way. He had lost appetite, sleep, and spirits, although the disease had not lasted three weeks when I saw him. I tried chloroform with him, and it at once reduced the number of paroxysms one-half, but without mitigating them when they did occur. He took the chloroform very freely; and as he was not readily influenced by it, the quantity seemed to give him a headache, and he begged to be allowed to suspend its use. I the more willingly agreed to this, as he had a severe attack of diarrhoea. I therefore substituted two drops of prussic acid (*Dub. Pharm.*) with two or three of black drops three times a day. The improvement, begun under chloroform, continued under this treatment, and at the end of five weeks from the beginning of the disease the cough had ceased, and he had regained rest, spirits, and flesh.

"Although this last case cannot be regarded as cured by chloroform, the paroxysms were first diminished by it, and I have no doubt that it contributed to the beneficial effect of the prussic acid. The first three cases are, I think, very conclusive as to its value; and, if farther experience confirms them, we shall possess a means of cutting short this disease in adults, who, when attacked, suffer so severely.

"One word as to the mode of exhibition. In order to avoid the possibility of an overdose, I have never given the chloroform on a handkerchief, or by means of an inhaler, but have directed the mother (in the case of young children) or the patient to spill a little, say about thirty drops, in the palm of the hand, and hold this before the mouth and nose, sufficiently near to inhale it fully, but not so close as to exclude a portion of atmospheric air. The best time to begin is just as the patient feels the irritation in the chest increasing to a cough, but, if possible, before the cough commences; and the inhalation should be repeated with each return of irritation, unless headache be produced."

41. *On Primary and Secondary Fibrinous Deposits.* By HENRY LEE, Esq. (Proceedings of the Royal Medical and Chirurgical Society, June 7, 1853).—Fibrinous effusions into internal organs have not been distinguished, on the one hand, from effusions of lymph, and, on the other, from tubercular deposits; and the author relates cases where the disease was noticed both in the veins and in

the substance of the lungs. The separation of fibrin from the other portions of the blood answers many useful purposes in the processes of healthy reparation after injuries. When a bloodvessel is divided, one important element in restoration is the separation of the fibrin, which agglutinates the divided edges. Fibrin also furnishes a capsule to foreign bodies introduced into the circulating system. The author then proceeded to relate the particulars of a case of fatal hemorrhage from the umbilicus, in consequence of the non-closure of the umbilical vein and one hypogastric artery. The dissection was minutely described, and he compared the want of power here displayed with the phenomena witnessed in certain cases of erysipelas and diffuse cellular inflammation. When once the morbid deposition has been communicated to the blood, it matters not in what part of the vascular system the deposit occurs, the essential characters and subsequent changes which it undergoes will be found strictly analogous. The author proceeded to illustrate the effects produced upon the blood by the admixture of different diseased secretions, by relating the particulars of some experiments upon the recently-drawn blood of the horse. He divides deposits of fibrin into primary and secondary, and draws these general conclusions: 1. That the blood may, under certain circumstances, deposit from itself a fibro-albuminous element, either in some of the larger vessels of the body, or in the structure of internal organs. 2. That the process is not of an inflammatory character, and may occur either with or without the intervention of a membrane. 3. That the changes in the blood which immediately precede such an action may be caused by the admixture of vitiated secretions. 4. That the deposit, when formed, is capable of undergoing various changes, which issue in the formation of purulent-looking fluid, and is capable, during these changes, of communicating irritation to surrounding fluids.

42. *Ovarian Cyst containing Brain.* By HENRY GREY, Esq. (Proceedings of the Royal Medical and Chirurgical Society.)—The attention of morbid anatomists had been directed for many years to the structure of ovarian cysts and their contents, and especially to those which apparently contained foetal remains, with a view, if possible, of determining their origin and mode of growth. It was the doubts that still hung over this subject, that induced the author to believe that the present case might prove of interest, and that at some future time it might aid in explaining the law that governed the singular development and mode of growth of these tumours. The patient was a female, aged twenty-eight, who died in St. George's Hospital of typhus fever. A full record of the *post-mortem* appearances was given, but the contents of the pelvis relate more especially to the present subject. The vagina was healthy; the uterus was somewhat larger than natural, and its muscular wall thickened. The membrane lining its cavity was covered throughout its entire extent with a highly vascular villous membrane, resembling the decidua. The round ligaments were both healthy; the right Fallopian tube more dilatable than natural, and contained a thin bloody fluid; the right ovary was healthy; the left Fallopian tube was healthy. The left ovary was occupied as a large cyst, the size of an orange; the lining membrane of the interior of the cyst was vascular; its wall was composed of an external peritoneal layer, an inner, smooth, shining coat, devoid of epithelium. The cavity of the cyst contained a few short, light-brown hairs. The lower half of the tumour consisted of a second cyst, containing some yellowish, white, purulent-looking fluid, with some granular fatty matter of the consistence of honey, scaly epithelium, and fine hairs of a brownish colour being intermixed with it. The fatty matter was found to be fluid at less than the natural temperature of the body. The hair, on being separated from the matter, was found to be attached to the wall of the cyst by distinct bulbs. A portion of the wall at the lower part of the cyst presented an appearance similar to the surface of the scalp; there was a thick layer of scaly epithelium mixed with fat covering the surface; numerous sebaceous glands were indented into this layer, and a canine tooth projected from the skin, fully formed; it was implanted into a fragment of bone, covered with periosteum. There was a third cyst situated near the fragment of bone, about the size of a walnut, the wall of which was delicately vascular, forming meshes resembling the pia mater; the contents of

this cyst presented all the characters of brain. On microscopic examination, the ordinary elements of nervous matter were seen, consisting of varicose nerve-tubules, intermixed with the elementary component parts of gray matter; nuclei, and nucleated vesicles containing granules. There was also a fifth cyst, the contents of which were much less like brain matter than the contiguous one. So far as the author had been able to ascertain, he believed that nervous matter had not been previously described as forming a portion of the contents of these ovarian cysts.—*Med. Times and Gaz.* July 30, 1853.

43. *The Tympanitic Sound produced by Percussion of the Lung, when partially condensed.*—Dr. W. O. MARKHAM states that two *post-mortem* observations have lately fallen under his notice, which positively demonstrate that the percussion sound of a partially condensed lung is clearer than that of a healthy lung.

"In one case, the left lung was found reduced by the pressure of pleuritic effusion to about one-fourth or fifth of its natural size; its lower lobe being *completely*, and its upper lobe *partially*, consolidated.

"In the other case, the *partial* consolidation was general throughout both lungs; it was caused by the effusion within them of the products of inflammation, excited by the rapid and extensive deposition of miliary tubercles. Now, when in these two cases the lungs, thus differently circumstanced as regards the nature of the disease affecting them, were removed from the bodies after death, placed side by side, and percussed, it was observed that the *partially* condensed upper lobe of the pleuritic case, and every part of the lungs invaded by inflammation in the other—especially the posterior parts, where the consolidation was most advanced, and the lungs contained the least amount of air—yielded a remarkably clear percussion sound, which in both cases, as far as the ear could judge, was exactly alike in its characters; the sound was that to which, for want of a better, I have affixed the term 'hollow,' in the paper above referred to; it is clear, high-pitched, empty, of a tympanitic character, and somewhat metallic; the vibrations of sound producing it appear superficially distributed, ceasing quickly, and not passing deeply. Perhaps it would be most convenient to designate the sound as 'tympanitic,' for I believe that this word is rarely in practice used to indicate merely a drum-like sound, as its origin would require; the term 'hollow' is objectionable, and for an evident reason.¹

"The left side of the thorax of the patient, attacked by the pleuritic effusion, yielded, two days before her death, a completely dull percussion sound at every part; and the heart was found beating to the right of the sternum. To relieve the great difficulty of breathing induced by this copious and sudden effusion of serum, a very fine trocar was introduced into the pleural cavity, and about twenty ounces of fluid withdrawn therefrom, by the aid of an exhausting syringe. Great care was taken that no air entered into the pleura, and that none did I am satisfied, having assisted at the operation. Temporary relief was thus afforded the patient; and now, immediately after the operation, on percussion beneath the clavicle, we found, instead of the completely dull percussion sound observed previously, a remarkably loud, clear, tympanitic sound, so marked, indeed, as to lead an observer to suppose that air had found its way into the chest. That there was no necessity for our thus calling in the presence of air to give reason for the sound, we had the demonstrative proof after the patient's death, when the body was examined. No air escaped from the pleura, but, on puncturing the left thorax, a large amount of fluid gushed forth; and, when a certain amount had escaped, the partially condensed lung floated forwards against the upper and anterior walls, and its percussion now, both within and when removed from the thorax, yielded a character of percussion sound, *exactly*

¹ The lungs were taken from two patients under the care of Dr. Chambers and Dr. Sibson, at the St. Mary's Hospital. I would remark that the fact here mentioned was observed by several gentlemen connected with the hospital, and its truth admitted by all of them. One gentleman was impressed with the idea that there must have been a "hollow" within the upper compressed lobe of the pleuritic case, from the peculiar character of the percussion sound which struck upon his ear.

similar to that which it had offered during life, after a portion of the pleuritic fluid had been withdrawn.

"I did not observe, during life, the nature of the percussion sound of the thorax in the case of partial consolidation, produced by tubercular inflammation, but it nevertheless well illustrates the fact I am alluding to.

"The conclusions which I am justified in drawing from these cases are:—

"1. That Skoda's assertion, that a *partially* condensed lung yields a clearer and more tympanitic percussion sound than a healthily inflated lung, is correct.

"2. That Dr. Williams's mode of accounting for this 'tracheal' sound, as he calls it, viz. by supposing that the upper part of the lung is compressed against the anterior walls of the thorax by the fluid behind, and thus, being consolidated, transmits, when percussed, the hollow sounds of the large tubes, is not correct, at least in all cases, for here was an instance in which *every part* of the *partially* consolidated upper lobe yielded equally well the tympanitic percussion sound, and so also when divided to show the absence of all hollow-ness or large tubes.

"3. That the sound, so far from of necessity indicating the presence of air in the pleura, is a sign that the lung contains less than its normal amount of air.

"One important practical deduction, if I am not mistaken, naturally flows from these facts, viz. that in certain cases of pneumonia, *if not in all*, when the consolidation of the lung has reached a particular stage, *but not yet that of hepatization*, the percussion sound over the affected portion, so far from being duller, *is actually clearer than natural*. The error of diagnosis into which a misinterpretation of this fact may lead the physician, is manifest enough; it may induce him, at a critical period of the disease, viz. when the lung is on the eve of complete consolidation, to prognosticate a commencing return to its healthy condition."¹—*Monthly Journ. Med. Sci.* Aug. 1853.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

44. *Popliteal Aneurism successfully treated by Compression*.—Dr. RICHARD SARGINT communicated to the Surgical Society of Ireland the following case:—

Michael Costello, æt. 30, a strong, healthy-looking man, was admitted into the Clonmel Poorhouse on 3d March last, and states that he was always in good health, though at times a hard drinker. He was an overseer on the Waterford and Limerick Railway. About October last, was obliged to walk a good deal each day, and frequently to assist in lifting the cars which were employed carrying clay, and which required all the strength and exertion he could use. About this time, he felt a great stiffness in the left leg about the knee, and a shooting pain down to the foot. He, however, continued his employment until Christmas, when he was obliged to give up work, as the swelling, which had been gradually getting larger in the popliteal space, became so painful and tense that he could not walk. The pain was of a throbbing character, and on applying the hand it was raised up at each impulse. The limb could not be straightened, and he felt a numbness in the leg and foot, together with sharp pain, as if pins and needles were stuck into them. He continued getting worse till his admission.

On examination, the limb was found much swollen; and the veins turgid. A large aneurism occupied the popliteal space; it was fully the size of the closed

¹ Is it not a fact of constant observation, and corroborated by auscultation, that in the *early periods of phthisis*, the percussion sound is clearer in the subclavicular space over the affected lung than elsewhere? My friend, the editor of this journal, informs me that he has correctly diagnosed the existence of general miliary tubercular disease of the lungs, from observation of the preternaturally clear percussion sound everywhere produced thereby over the thorax.

fist. On applying the hand, a strong impulse was communicated at each pulsation of the heart, and the bruit was very loud, and the thrill was quite perceptible to the touch.

On the second day after admission, a temporary clamp, "made by a strong steel hoop which nearly surrounded the leg, and to which a tourniquet was attached," was put on, and pressure made on the artery, which nearly controlled the pulsation. From this he felt almost immediate relief, and got the first good night's sleep which he had had for some weeks. The next morning, the position of the pressure was altered, and from time to time this was done. This day he felt a severe burning pain in the tumour; this pain, though becoming less each day, continued for eight or nine days. The swelling of the foot and leg began to decline, and also the pain in them. The pulsation at this time (the ninth day) was hardly perceptible, and the bruit very slight. On the 17th of March, Dr. Carte's compressor (which Dr. Scully, under whose care the man was, had in the meanwhile procured) was applied instead of the temporary one, and gave great comfort to the patient; and on the 24th all pulsation and bruit had ceased, even when the instrument was relaxed. However, it was retained on the limb with moderate pressure until the 4th of April. At this time the leg was quite straight, the tumour much decreased, and no pain of any description felt in the limb, and he could move it freely in every direction, and also flex the knee without any annoyance. He now declares himself as well as ever he had been in his life.

I have no doubt that the instrument might have been removed sooner; but as it caused no annoyance to the patient, it was thought safer to keep it on so long, so as to make sure that there should be no recurrence of the disease. We were very much aided by the patient himself, who, being a very intelligent man, was shown how to alter the position of the instrument when it caused pain in any one place. The anastomosing vessels are much enlarged round the joint, and there is not the slightest inconvenience felt after the pressure.

April 18. The patient was discharged this day from the house, as he was anxious to resume his employment. The tumour is not now more than a quarter of its original size, and is daily decreasing.—*Dublin Med. Press*, June 1, 1853.

45. *External Popliteal Aneurism successfully treated by Compression.*—The following interesting case of diffused aneurism, of nearly twenty inches in circumference, successfully treated by compression, through a formidable series of complications, was communicated to the Surgical Society of Ireland by JOHN JACOB, M.D.:—

Peter Beale, ætat. 22, from Ballyroan, Queen's County, formerly a private in the 5th Fusileers, admitted into the infirmary June 14, 1852. He states that during a march of twenty-three miles over a mountain road in the Mauritius by night, he experienced a strain (his foot turning in a car-track), which was followed, in five or six days, by a swelling in the right ham, about the size of a pigeon's egg, having a pulsating sensation. He applied to Surgeon Small, of the 12th regiment, who admitted him to hospital the following day. He was subsequently sent to Port Louis, where he remained in hospital for nine months.

Pressure was applied, about three inches below Poupart's ligament, for the space of about ten days, by means of a clamp with a small-sized pad, which he states did not remain in the proper place, in consequence of its being too small. A deep slough formed, the cicatrix of which is considerable, an inch and a half by one inch. The instrument was moved to within one inch of Poupart's ligament, where a similar slough formed, in each case in about forty-eight hours. The instrument was left on ten days at each place. Pulsation in the tumour did not diminish during this time, but the size did not increase. There was a good deal of oedema of the leg, which disappeared when the pressure was removed. He returned to England in April, 1851, and remained in hospital at Chatham for about five months. No treatment was adopted until August, when pressure was again applied for thirteen days, two compresses being used, one at the groin by means of an instrument, which he states resembled a truss, and another over the upper part of Hunter's canal, with a steel clamp and a screw, both being used at the same time. That over the middle of the thigh caused a

deep slough, and that over the groin a superficial one in about three days. When the ulcers healed he was discharged, 1st September, 1851, the tumour having rather increased in size. Early in November, he came to the infirmary, but declined to be admitted, the tumour in the ham having at that time attained considerable size.

June 14. Within the last three weeks it has increased very much, altogether preventing his walking; he complains of severe pain in the tumour and leg; it extends, at present, from about three or four inches above the knee on the posterior part to the upper part of the middle third of the leg; it measures round the upper part nineteen inches, lower part seventeen inches and a half; length of tumour six inches. The size can be slightly diminished by pressure on the artery in the thigh; but the tumour returns to its original size immediately on its being removed. By auscultation, a bruit de soufflet is audible, principally on the outer side over the head of the fibula, and on the inside, behind the head of the tibia. The tumour extends, at each side, above and around the condyles of the femur. The knee-joint is bent, the leg being nearly at a right angle to the thigh, and cannot be made straight. *17th.* Ordered to rest in bed, a bandage being applied from the foot to above the knee.

July 6. He has been in much the same condition as at last report; experiences some trifling pain in the tumour; more in the leg and foot. Compression was this day applied at 1 P. M., by means of a piece of sheet gutta percha placed on the back of the thigh, and a compress, about four inches long by an inch and a half broad, longitudinally over the artery, at the lower part of Scarpa's space, the pressure being made by means of four or five India-rubber bands passing round the limb outside, the gutta percha attached to the compress by means of hooks placed at each side, several being inserted to afford an opportunity of increasing the amount of pressure by means of a greater number of bands. The limb was bandaged from the foot up to the point where the compress was applied, and placed on a pillow lying on the outside. In about a quarter of an hour after, patient began to complain of pain in the whole limb, which increased in a great degree for about an hour, but afterwards became more moderate. The whole limb became very much congested, livid, and swollen. The saphena vein is of unusual size, which he states became so after pressure was used on a former occasion. Pulsation in tumour became much diminished after the first two hours, at which time the pain was less severe. Eight P. M., patient much easier, but still complains of pain in the limb, principally along the anterior part of the tibia. Very slight pulsation observable in the tumour. Temperature of limb continues natural. R. Acet. opii ℥ xxv; liq. tart. ant. ʒss; aquæ menth. ʒi.

7th. Patient passed an easy night, but states that he was afraid to sleep, as he is subject to nightmare, and was afraid of disturbing the limb; took the draught at 11 P. M. yesterday, and felt much relieved from pain afterwards; the limb appears much less swollen than yesterday; temperature continues good; states that he could bear more pressure, if necessary; an additional band was applied accordingly; is rather feverish; pulse 130. Sumat haust. effervescent, cum tart. antim. gr. i.; ad ʒviii, tertia quaque hora.

8th. Patient passed a very restless night, suffering a good deal of pain all over the limb, feeling very tense; the bandage appears tighter, and the toes more swelled; a slight amount of pulsation is still felt in the tumour; some vesications and superficial excoriations are observed under and around the pad, which was moved a little higher up, and two extra bands applied, the whole being seven in number; the bandage round the foot was removed; the foot was found congested, and a fresh one applied, from which patient stated he derived comfort. *9th.* Patient had a comfortable night; does not suffer any pain in the limb, which appears much the same; temperature natural; there appears to be less fever than yesterday; pulse 120; tongue furred; appetite bad. *10th.* Patient had a bad night; slept very little on account of the soreness in the limb, and, as he states, scalding; there appeared to be a good deal of discharge of serum from the vesications; the compress appears to have moved from its proper position at the upper end; pulse 100; complains of thirst. 1 P. M. The bandages were moved at about 10 A. M., and also the compress; the limb is

found to be still a good deal swollen; pulsation has returned in tumour, which appears smaller, and at the posterior part feels solid; an audible thrill is found in every part of the tumour, on applying the ear. 12th. Patient passed a good night; no pain or uneasiness; there is less oedema of limb; tumour appears more solid and circumscribed. 14th. Patient going on well; limb feels easy, and is less oedematous; when compared with a cast which was taken before pressure was applied, it is found to be more circumscribed, smaller, and shorter. 12 noon. Patient much the same as at last report. 21st. Patient had a pretty good night, was free from pain, but did not get much sleep; considerable oedema of limb, which appears the same as at last report; pulsation can be seen when pressure is made over the tumour; a third band was applied for three hours during the day, but there appeared to be very slight diminution of pulsation during that time, with increased oedema of limb, notwithstanding continued hand-rubbing; complained of pressure very much, but stated he could bear two bands very well; the bandage was reapplied, and two bands left on; there is now considerable oedema, without any apparent diminution of pulsation, with a good deal of uneasiness; the pressure was now removed, and hand-rubbing ordered to be continued for half an hour, when the pad was removed; there was a manifest increase of pulsation, with an audible bruit, on applying the ear over the tumour; but the pulsation is not to the same amount as before the commencement of pressure. 23d. Patient rested very well; there is less oedema and also less pulsation in tumour, which appears to be harder; pulse 92; not much thirst. Directed to keep up pressure, by means of an eight-pound weight applied on a pad over the groin, which commands the pulsation sufficiently. 8 P.M. Patient seems tired from the exertion of holding the weight, and the press artery which he used occasionally to relieve himself, but was able to keep them applied nearly all day; the tumour seems to have become more solid, and pulsation much diminished. Sumat mist. aperientis ℥ii, quarta quaque hora; donec alvus responderet.

25th. Patient rested well last night; pulsation appears less in tumour, which is more solid to the touch, principally towards the anterior part; a weight of about eight lbs. is sufficient to cause all pulsation to stop; he applies it about ten or twelve times a day, and retains it for a quarter of an hour each time. 26th. Patient continues to improve; pulsation decreasing gradually; rests well; appetite improving. 28th. Patient has no pain; tumour appears smaller, and pulsation less, more easily controlled; solidity extending towards knee. 30th. Tumour diminishing in size, and more solid to the touch; pulsation is easily controlled by a weight of seven lbs., which he continues to apply; can now retain it over the artery for about a quarter of an hour at a time, then rests for twenty minutes or half an hour, and then reapplies the weight. 31st. Patient was attacked last night, at about 10 P. M., with pain in right side, accompanied by urgent dyspnoea; pulse 120, full and hard; dulness and crepitus at lower part of lung. Was bled till faintness was produced, when the pain was relieved; had vomiting after bleeding. He was ordered: R. Tart. antim. gr. ii; tinct. opii ℥ii; aquæ ℥viii. Ft. mist. sumat ℥ss, tertia quaque hora.

August 1. Patient going on well; pneumonia is much improved; has no pain in the side; no cough; passed a pretty good night; has not been able to apply pressure the last two days; tumour remains the same. 2d. Patient was seized yesterday with an attack of diarrhoea; disturbed through the latter part of the day, accompanied with abdominal pain, which was relieved by a turpentine fomentation and a mixture composed of tinct. opii ℥ij, mist. cretæ ℥vi; ℥i tertia hora. 3d. Patient much better to-day; diarrhoea nearly ceased; bowels opened twice since one o'clock yesterday; pulsation nearly ceased in tumour, which feels quite solid. 4th. Patient improving; diarrhoea much better; no pain either in the side or belly; there appears to be a slight increase of pulsation in the tumour. Directed to apply the pressure again as often as he can bear it. 7th. Did not rest well last night; has not done so the last few nights; feels very weak, and looks badly; complains of being feverish; the limb feels hot, but collateral circulation seems fully established; several enlarged vessels can be distinctly felt and traced by their pulsation on the internal part of the knee. 10th. The

tumour is quite solid ; there is a good deal of œdema ; tumour feels hot ; it is evident that decomposition of blood has taken place in the tumour, which will suppurate and discharge itself through an opening in the ham ; pulse 120. App. cataplasma simplex. 11th. Patient had a good night ; slept pretty well ; limb feels easier since the poultice was applied. 12th. Patient did not rest so well last night ; feels the limb more uneasy and painful ; there is a blush of redness along the inner surface, with considerable œdema and fluctuation ; an opening was made at the posterior inferior part of the tumour, when a quantity of decomposed blood having a fetid smell escaped ; another opening was then made where he complained of most pain ; a quantity of dark-coloured discharge was evacuated, mixed with grumous blood ; felt much easier after the evacuation of the matter, about twenty ounces in quantity ; a tent was introduced into each opening : R. Sulph. quin. gr. i, ad ℥ v ; aquæ ʒviii. Ft. mist. sumat ʒi, ter quodædie ; cont. haust. anodyne tinct. alia.

13th. This morning, an opening was made on the external side, a little below the knee ; about eight or nine ounces of sanguineous pus was evacuated, also a few ounces passed out through the opening in the ham ; the tumour is smaller ; tension quite relieved ; appetite is improved since yesterday ; diarrhœa stopped. R. Sulph. quinia gr. xxiv ; pulv. opii, gr. ii. Ft. pil. xii. sumat i. ter quodædie.

14th. Patient feels much better ; the limb is found to be quite flaccid ; a free discharge has commenced from the opening in the ham ; *a quantity of fibrin has come away, having a laminated appearance ; the different layers can be separated from each other ;* discharge continues of the same character ; the opening towards the anterior part of the leg continues to discharge freely when pressure is made on the tumour. 17th. Patient going on very well ; discharge more purulent, but diminished in quantity ; limb much reduced in size. 19th. Patient continues to improve ; some œdema continues in the foot ; discharge of a more healthy character, less profuse ; a small portion of fibrin came away to-day ; rests better at night, but still requires his anodyne. 20th. Patient complains to-day of pain and soreness of left leg and thigh, which is slightly swelled, resembling phlegmasia dolens ; states that he awoke in the night and felt the limb cold and painful ; glands in groin enlarged and tender ; the right limb continues to improve. 21st. Patient did not rest well ; complains of pain of the left thigh and leg ; he appears much depressed, and the countenance contracted ; right limb improving, discharging freely pus of a more healthy character. Sumat haust. efferves. ext. carb. ammon. 4ta quaque hora. R. Ung. hydrarg. ʒii ; olei camph. ʒxiv. Ft. liniment. ter quodædie atendum cum sinistro.

22d. Patient appears rather better to-day ; left limb is a good deal swelled, but there is less pain ; complains of soreness more than pain ; right limb much the same as yesterday. Cont. medicamenta. 23d. Patient rather better ; less swelling in limb, which is not so sore to the touch ; feels much better ; has a good appetite, and could sleep if not disturbed ; at the dressing last night, a portion of clotted blood was discharged mixed with pus ; opening looks healthy. 25th. Patient going on well ; swelling diminishing in left limb ; the opening in the ham continues to discharge healthy pus. 28th. Patient continues to improve ; swelling of left limb is much less ; there is also less pain and soreness ; appetite is much improved ; the right limb is much diminished in size ; opening in the ham closing ; discharge less in quantity. From this date, he continued steadily to improve, and was discharged from hospital on the 6th of November, cured, the limb nearly straight, and able to walk well.—*Dublin Med. Press*, June 1, 1853.

46. *Popliteal Aneurism successfully treated by Compression.*—The following case was reported to the East Kent and Canterbury Medical Society, by H. DENNE, Esq. : A man, aged 36, tall, rather stout and healthy-looking, was admitted into the Kent and Canterbury Hospital with a popliteal aneurism, in March, 1852. About seven years previously, the right leg was removed below the knee in consequence of a severe injury about the foot, from a railway truck passing over it ; he recovered well, and had since used a wooden leg. In October, 1851, he visited the Great Exhibition, when he was obliged to walk much

and very fast, about four miles in an hour. About a week or ten days after his return home, he felt great pain in the under part of the knee, and considered it was from a sprain; but upon examination he found a swelling, of the size of his finger; since then the swelling had gradually increased. He first felt pulsation in the swelling about Christmas; but it has never been so painful as to oblige him to rest the limb.

A tolerably firm elastic swelling occupied the ham projecting posteriorly, extending over the inner side of the lower part of the femur, and encroaching upon the calf of the leg, so as very much to limit the power of flexing the leg. A very forcible and *expansive* pulsation was perceptible in the entire extent of the tumour, but more especially on the inner side. A loud bruit was detected by the stethoscope; and, upon interrupting the circulation by pressure upon the femoral artery at the groin, the swelling diminished considerably. The patient complained of pain extending down the calf of the leg to the ankle. During the unavoidable delay that occurred, in obtaining the required apparatus from London, the tumour increased in its upper and inner portion; and the bruit, which had been more distinct on the inner side, became more audible in the centre of the posterior part. The pain which he had experienced upon admission diminished very much under the rest and quiet to which he was subjected. The apparatus used was that known as Dr. Carte's pelvic apparatus for compression of the artery at the groin, with the ring-tourniquet for effecting pressure upon the artery below.

The instruments were applied on April 18, at twelve o'clock. The pulse was then ninety-four, and rather weak. The pressure on the artery in the thigh was so fixed, as to stop the pulsation completely. The pulse very soon rose to 108, and became fuller; it however fell to ninety by the evening, and varied during the subsequent treatment between eighty and ninety-six. The pain from the pressure had become so severe by 2 P. M. that it was necessary to relax the tourniquet on the thigh and to apply the pressure upon the groin. It was found that the integument was discoloured where the wooden pad of the instrument had pressed; and shortly after, slight vesication formed on the surface of the bruised skin. After this, pads of lint were introduced between the integument and the compresses of the tourniquets with good effect. The man was cheerful and intelligent, and interested himself so much in the plan of treatment, that, during the latter part of it, he was intrusted with the adjustment of the pressure, and permitted to relax the screw of one instrument, and to readjust that of the other, whenever the pressure became too painful. He bore the pressure of both instruments for a period varying from four to six hours. Although, each time the compresses were screwed down, the pulsation was completely checked, yet, shortly afterwards, a feeble thrill, and sometimes a fair pulsation could be discerned in the swelling. This was more particularly the case when the compress on the groin only was in operation. In addition to the occasional pain from the instruments, the man experienced pain, and sometimes numbness, in the foot and ankle.

On the 19th, he was thirsty and rather feverish, partly from a sleepless night and constipated bowels. He was relieved from these symptoms in the course of the day, by a free action of the bowels. During the night of the 19th he slept comfortably, at intervals, for three and four hours at a time; and for seven hours the pressure was maintained by the ring tourniquet.

Between 4 and 5 P. M. of the 21st, about *seventy-six hours* from the commencement of the treatment, the patient suddenly felt a severe thrilling pain about the upper and inner sides of the knee-joint, which lasted nearly half an hour, and extended down the leg to the toes; a sensation of throbbing about the part was also experienced. Shortly after this pain had subsided, the screws were relaxed, and the swelling was found to be quite free from pulsation, which never returned. During the three days of treatment, the tumour was perceived to become more consolidated, slight pressure was continued four days longer, and then the apparatus was removed and a bandage applied.

He was made an out-patient on May 18; a firm swelling the size of a fist still remaining in the ham. During the three months that he continued an out-patient, the tumour slowly diminished.—*Assoc. Med. Journ.* July 1, 1853.

47. *Traumatic Aneurism of the Ulnar Artery, successfully treated by Compression.*—J. REID, Esq., reports a case of this in a woman, aged 37, married, admitted into the Kent and Canterbury Hospital, November 18, 1851. She was of a spare habit, and of a nervous and anxious temperament. Two months before she was admitted, when correcting her son at dinner-time, she directed a blow with her hand at his head. At the same moment, the boy raised his hand with a knife in it, in order to protect himself; her arm came in contact with its point, and a deep wound, about an inch and a half above the wrist-joint, on the ulnar side, was made in her right forearm. Blood immediately issued in a jet, and spirted about the room; but by the aid of her neighbours the bleeding was stopped. About an hour and a half afterwards she showed the wound to a surgeon, who, finding there was no hemorrhage, brought the edges of the wound together. The arm became painful and swollen at the seat of the injury, and about three days afterwards, the whole arm, from the fingers to the elbow, became very much swollen and tender. This condition lasted for a week, during the whole of which time the pain was very severe. Antiphlogistic measures were adopted, and the arm was poulticed; and at last the patient was bled from a vein in the affected arm and experienced great relief. The general tumefaction subsided, leaving a circumscribed swelling, which was presumed to be an abscess, and which it was proposed to puncture, but the patient objected. It was subsequently discovered to be an aneurism.

When she was admitted, there was a swelling immediately above the wrist, about as large as a goose's egg, without very distinctly marked limits. It pulsed strongly in all parts, the beating being perceptible even to the patient. A loud bruit was also communicated to the ear. The tumour appeared to extend under the superficial muscles of the arm. The cicatrix of the wound was situated on the inner side of the swelling, and for some distance around it the surface presented a dull slate colour, the integument feeling much thinner here than elsewhere. The movements of the hand and fingers were crippled; and there was no sensation in the ring and middle fingers. A thick compress of lint was placed over the swelling; the fingers were bandaged, and a roller was firmly applied to the forearm, as far as the elbow. The pressure could not be borne longer than for four hours, and then it was slackened. At the end of four days, though the tumour seemed a little smaller, the pulsation remained as strong as before. The fingers were now more firmly bandaged by strips of adhesive plaster, two pieces of sheet lead folded in lint were fitted to and placed over the tumour, and a solid narrow cylindrical pad was placed as nearly as possible in the course of the ulnar artery, along the upper part of the forearm, and firm pressure with a bandage was applied over the whole. The pressure was borne for six hours, when it was necessary to relax it by cutting some of the turns of the bandage. When the bandage was removed, at the end of forty-eight hours after its application, the pulsation had ceased in the swelling. The bandage and compresses were reapplied, and at the end of three days were removed. The tumour was then found to have decreased; but upon close examination it was thought that there was a feeble pulsation, such as the recurrent circulation might produce. An additional pad was placed between the aneurism and the wrist, over the ulnar artery. No pulsation could be subsequently felt, and the swelling contracted. The compresses were gradually removed, and the bandage only was retained. When the swelling had diminished to the size of a small walnut, it remained stationary for some weeks; but in the last week in December, the forearm became painful and slightly swollen. By rest, cold lotions, and aperient medicines, this subsided, and the remains of the aneurismal sac became soft and fluctuating, so that it was expected that suppuration had occurred in it. The swelling, however, slowly decreased, and ultimately entirely disappeared, the only trace that remained of the injury, being a cicatrix with some induration in the surrounding parts. The hand continued in a crippled state when she was discharged.

Mr. REID thought that much of the successful issue of the case was due to the pressure produced upon the ulnar artery by the cylindrical pad above the aneurism, and regarded the case as one confirming in some degree the treatment of aneurism by compression of the artery between the aneurism and

the heart. Had this mode of treatment failed, it was intended to have employed pressure upon the brachial artery by a ring tourniquet.

The patient was again in the hospital in 1852, for dyspepsia and neuralgic pains in the face and head. Although the movements of the arm had improved, those of the hand remained in much the same state. A slight increase of power in the movements of the fingers, but more especially in the wrist, took place whilst she was in the hospital, and there seemed a prospect, when she left it, that in course of time the hand would again become useful.—*Assoc. Med. Journ.* July 1, 1853.

48. *Ligature of the Abdominal Aorta.* By Prof. MONTEIRO, of Rio Janeiro.—This case, which is the fourth of the kind on record, occurred so long ago as November 5, 1842.

The patient was a man, aged 31, and suffering from what appeared to be aneurism of the right common iliac artery. The symptoms had first declared themselves after a long ride on horseback.

The operation having been agreed to by his colleagues, M. Monteiro made an incision from the left antero-superior spine of the ilium to the tip of the last free rib, in which the superficial fascia, the oblique and the transverse muscles, and the fascia, were successively divided. He then exposed the aorta behind the peritoneum by breaking down the intervening cellular tissue; and the peritoneum and its contents having been raised by the hand of an assistant, he passed the ligature by means of a long needle, and tied it in a double knot. After this he closed the wound in the parietes by three twisted sections.

Immediately upon the tying of the ligature the pulsation ceased in the tumour, and the inferior extremities became cold, but four hours afterwards the coldness had passed off, and the temperature had risen a little beyond the natural point. During the two following days nothing remarkable occurred, and the only point of interest in the report is that the lower limbs were not paralyzed. On the 8th there were slight pulsations in the lower part of the tumour and in the femoral ring. On the 9th, these pulsations were more marked. On the 12th, the wound in the parietes had healed, except at the point occupied by the ligature connected with the aorta. On the 14th, about two ounces of red blood escaped by the side of the ligature, the pulse was small and frequent, the skin clammy, and the lower extremities cold. On the 15th, there was fresh hemorrhage by the same channel, together with extreme feebleness, and great pain in the right iliac region. On the 16th, the hemorrhage recurred, with vomiting and hiccup, and the patient died.

The *post-mortem* examination revealed no sign of inflammation in the peritoneum. The aorta had been tied about four lines above its bifurcation, and an inch below the inferior mesenteric branch. Above the ligature the vessel was empty, and the fatal hemorrhage was found to have issued from an opening in its coats corresponding to the knot of the ligature. The tumour, which was found to be false aneurism, appeared to have originated in a small rupture of the femoral artery, about an inch below Poupart's ligament, and from this point the blood had wormed its way into the neighbouring intermuscular cellular tissue of the thigh and upwards, under Poupart's ligament, into the iliac fossa, and thence behind the peritoneum to the back of the liver and the under surface of the diaphragm. The right common and external iliacs were red, friable, and seated in the upper and inner side of the tumour.—*Half-Yearly Abstract*, vol. xvii. from *Rev. Medico-Chirurgicale*, March, 1852.

49. *Ligature of the Subclavian Artery.*—This operation was performed by Dr. DOMENICO CACCIOPPOLI, on the 13th of February 1853, in the Hospital of Incurables at Naples. The patient was a singer, thirty-three years old, suffering from a large spontaneous aneurism under the left armpit. After the *electropunctura* and other means had been tried without success, a transverse incision was made over the clavicle, and the ligature of Scarpa was applied at the subclavian artery, immediately at its exit from the scalenus muscles. At the expiration of one day, the pulsation of the tumour reappeared. The operator, suspecting that the ligature was relaxed, to avoid the danger of a new ligature,

three days after the operation, introduced a small ivory tube, as large as a quill, guided by the lancet, into the wound as far as the artery. He was then enabled to contract the artery at pleasure. At the expiration of seventy hours, the ivory tube was easily removed. Thirteen days afterwards, the ligature fell, and in forty days the wound cicatrized, sense, warmth, and motion existing in the left arm equally with the right. The tumour dispersed both by absorption and by evacuation of dissolved blood from two suppurated punctures. The individual went out of the hospital on the 3d of April, and continues perfectly well up to the present time.—*Lancet*, Aug. 20, 1853.

50. *Pulsating Tumour in the upper third of the Thigh—Ligature of the External Iliac, successful*.—H. DENNE, Esq., reported to the East Kent and Canterbury Medical Society, the following case: A sailor, aged 30, of middle stature, rather thin, and having a sallow complexion, was admitted into the Kent and Canterbury Hospital, on April 20, 1847, with a pulsating tumour in the upper and anterior part of the left thigh. Some time before his admission, whilst using great exertion on board ship, he felt something give way in the thigh; and about a month before he came to the hospital he perceived a small swelling in the situation where he had felt the pain, but took no particular notice of it. The swelling, however, became larger and more painful, so as to cause him to apply to a surgeon in the Isle of Thanet, who immediately sent him to the hospital.

On examining the thigh, a tumour, of undefined limits, but apparently as large as a man's fist, was found in the upper and front part of the left thigh. Its form was rather conical, the point being directed inwards; a strong *expansive* pulsation was felt in it in every direction, and a bruit was heard on applying a stethoscope to it. Pressure on the femoral artery completely stopped the pulsation. The man complained of cold in the part, and was greatly comforted by the application of a hot poultice. During the few weeks he was in the hospital, prior to the operation, the swelling slowly increased; but, on visiting him on the afternoon of May 9, Mr. Denne found that a sudden change had taken place since his last visit. The thigh in the neighbourhood of the tumour had become considerably enlarged, and was discoloured, the limits of the tumour being lost in the general swelling. A consultation of the medical staff was summoned the same night; and, in consequence of the swelling approaching close to Poupart's ligament, it was deemed expedient that the external iliac artery should be immediately tied.

Mr. Denne cut down upon the artery in the usual manner, and experienced no difficulty in putting a ligature round the vessel. The pulsations in the tumour ceased immediately after the operation. The limb was enveloped in spongio-piline, and its temperature was never much below that of the other. The patient's recovery was uninterrupted. The ligature separated on the twenty-ninth day (June 7), and on the fortieth (June 18), pulsation was felt in the anterior and posterior tibial arteries. The general and increased tumefaction noticed on the 9th of May, subsided soon after the operation; but the tumour did not continue to decrease in the proportion usually observed in aneurism, after ligature of the artery that is involved; so that, when he was discharged from the hospital, September 3, there remained a tolerably firm tumour, about two-thirds of the size of the swelling that existed when he was admitted, and retaining the same form.—*Assoc. Med. Journ.* July 1, 1853.

51. *Aneurism by Anastomosis cured by Galvanopuncture*. By M. NELATON.—A young woman, aged 20, presented herself at the hospital to be treated for a tumour, situated over the nasal eminence, extending more to the left than to the right, manifestly composed of a convolution of bloodvessels, which could be traced by the finger. There was a distinct trembling synchronous with the arterial systole, and the ear detected a well-marked murmur. The patient referred the disease to a blow received two or three months before. The nature of the affection was immediately recognized by M. Nelaton, as consisting of dilatation of the arterial trunks in this region. The situation of the tumour in the mesial line would have rendered necessary ligature of both carotid arte-

ries; and M. Nelaton preferred, to so dangerous a proceeding, a trial of galvanopuncture, which he performed in the following way:—

Two needles were applied to those points of the tumour where the pulsations were most apparent, and then brought into connection with the battery of Bunsen, ("Système de Piles de Bunsen,") composed of thirty pairs of plates, which were permitted to act uninterruptedly for ten minutes. For the distance of a centimetre from the point of contact of the needle, connected with the positive pole, an induration was felt, caused by the coagulation of the blood in the tortuous vessels of the part.

The pain was very slight indeed. A similar application of electricity was effected, eight days afterwards, in another point of the tumour, and with the same result. In short, six sittings sufficed to stop the pulsations in the whole extent of the tumour, and to lead to the obliteration of the plexus of arteries of which it was composed. The harder parts became in time absorbed without recurrence of the permeability of the vessels.—*Med. Times and Gaz.* Sept. 10, 1853, from *La Presse Med. Belge.*

52. *False Aneurism of the Posterior Tibial Artery.*—The injection of perchloride of iron caused coagulation of the blood in the spurious aneurismal sac, produced by division of the posterior tibial artery in a child aged four weeks. The firm clot squeezed out the serum, which was seen oozing from the surface of the wound. The instrument used for injection was a glass syringe, with a long and slender tube, which was made to penetrate the clot, and convey the perchloride to the fluid blood below.—*Med. Times and Gaz.* July 30. (*Proceedings of the Royal Medical and Chirurgical Society.*)

53. *New Instrument for injecting the Perchloride of Iron in Cases of Nævus, &c.*—During the last two months we have witnessed several trials of the acid solution of the perchloride of iron, as an injection for producing the coagulation of the blood in nævus, etc. In more than one instance, very severe inflammation of the part has followed its use, and in one, a nævus on the scalp, sloughing, and even exfoliation of a portion of bone resulted. There appeared, however, some reason to think that the powerful agent had been too freely used, and that, had a much smaller quantity been injected, the promises made by its introducers might possibly have been borne out. Other objections also applied to the method and instruments in ordinary use; they required that an opening should be made for the introduction of the syringe; and the flow of blood produced by the puncture, to say nothing of the smallness of the aperture, sometimes rendered the latter difficult of accomplishment. We have been shown, during the past week, an ingenious little instrument contrived by Mr. Fergusson, of Giltspur-street, which looks likely to aid very materially the efficient accomplishment of this procedure. It consists of a very small glass syringe, the point of which terminates in a fine platinum tube. This tube is encased in another one, about a quarter of an inch longer than the first, ending in a sharp trocar-like point, and having, near its extremity, an oblique opening in one side. By rotating the outer tube on the contained one, their apertures may be made to correspond or otherwise, at the will of the operator. Thus, then, the necessity for two instruments is quite done away with. The syringe having been charged, the operator rotates the outer tube, so as to conceal the orifice of the inner one entirely, and protect it from the ingress of blood. In this state the instrument is passed into the centre of the tumour, and, having been stirred about as much as may be thought desirable, the tube is turned back, so as to expose the orifice; and the piston being at the same moment depressed, a drop or two of the solution is squeezed out. It may be supposed, that the smallness of the whole instrument, and the diminutive size and oblique position of its aperture, will afford considerable guarantee against the injection of too large a quantity, while on its advantages, in case of employment, it is scarcely necessary to insist.—*Med. Times and Gaz.* Aug. 27, 1853.

54. *Analysis of Cases of Injuries of the Head examined after Death in St. George's Hospital, from January, 1841, to January, 1851, with Pathological and*

Surgical Observations. By PRESCOTT HEWETT, Assistant Surgeon to St. George's Hospital.—In this analysis, the author purposely included only fatal cases, where the exact nature of the injury had been clearly made out.

SECTION I. *Scalp Wounds without Fracture of the Bones.*—In this decennium 33 cases of scalp wounds without fracture of the bones were examined. In 10 of these cases death was produced by some other cause. In the remaining 23 cases mischief of a serious nature soon followed the injury, and ultimately proved fatal. Diffuse cellular inflammation occurred in 17 cases, and in 12 this was accompanied with erysipelas. In four cases there was diffuse inflammation of the neck, which spread down to the mediastina in two, and caused oedema of the larynx in two cases. Hemorrhage in two cases followed sloughing caused by inflammation. In 9 out of 12 cases, where both brain and its membranes were healthy, death ensued from purulent infection. In ten cases inflammation had existed about the membranes or the brain. In eight, suppuration was found between the bone and the dura mater. The trephine had been applied in three cases. Most of the patients were persons of intemperate habits. Several had insisted upon leaving the hospital, but were readmitted with swelling of the scalp and other signs of inflammation. Simple puncture, as recommended by Sir Benjamin Brodie, relieves the oedematous swelling not uncommonly following scalp wounds; but free incisions are required when suppuration ensues. Sloughing of the scalp is thus usually prevented. Separation of the dura mater from the bone may occur either as a primary or as a secondary effect. In the first case the small vessels connecting the dura mater to the bone are ruptured by the blow; in the second, the osseous tissue inflames and suppurates. Generally speaking, the suppuration between the bone and dura mater is circumscribed, and the extent of the mischief on the inner side of the bone is exactly traced by that on the outer side; but should the suppuration occur in the parietal region it may be much more diffuse. In this decennium, there has been no single instance of the secondary puffy tumour of the scalp, described by Pott. It has never fallen to the author's lot to witness a case in which the application of the trephine for the evacuation of pus within the cranium, as described by Pott, had a successful issue. He has never known the trephine applied at St. George's Hospital with the view of evacuating matter situated either under the dura mater or in the brain. Matter may flow, upon the application of the trephine, from the cancellous diploe of the cranium. Purulent infection was observed in 14 out of 23 fatal cases of scalp wound. This disease is found especially in injuries involving the osseous system, and M. Chapaignac believes that the removal by the trephine of the contused bone, before suppuration has taken place in its diploe, destroys the source from whence the secondary mischief is for the most part derived; but such an explanation cannot be received as a valid one.

SECTION II. *Fractures of the Bones, and Separation of the Sutures.*—In this decennium 78 cases of fractures of the skull were admitted, 18 of which had received other severe injuries, of a nature likely to cause death; 56 were simple fractures; 22 were compound. Of the simple fractures, 19 were accompanied by wounds of the scalp not exposing the bone; extensive separation of the sutures coexisted in 14 cases. In 47 cases, the injuries had been produced by the patients having fallen from various heights; in 10, the blow had been inflicted by some heavy instrument. In the 56 cases of simple fracture, there was only one single instance in which the injury was confined to the spot upon which the blow had been struck. Fractures of the base of the skull seldom exist alone; in a large majority of cases the injury coexists with fractures radiating from the point where the blow was struck. In 68 cases of fracture of the base, six only were confined to this region, and it was only in two cases that no trace of fracture could be detected at the seat of the blow. In six cases of simple fracture the injury was accompanied by depression, which was in all very slight. In 10 cases of compound fracture there was also depression of the fragments, considerable in nine. Fractures of the skull, with depression of the inner table alone, occur but rarely. The author divides the skull into three zones, to each of which injuries are often confined, fractures of the middle zone being the most common. Fractures involving the orbital plates of the

frontal bone are oftentimes accompanied with effusion of blood in the orbit. Bleeding from the ear is of not infrequent occurrence in severe injuries to the head, indicating fracture through the petrous portion of the temporal bone. But of the signs indicative of fracture of the petrous bone, one of the surest is the copious discharge of a watery fluid, which may or may not be preceded by bleeding. The author believes the fluid to come from the sub-arachnoid space. That such is sometimes the case has been established by M. Robert, in a valuable paper in the "*Mémoires de la Société de Chirurgie de Paris*," vol. i. The discharge occurred in old as well as in young subjects. M. Chaignac has endeavoured to prove that this fluid owes its origin to the filtering of the colourless part of the blood, and other surgeons have held that it comes from the cavity of the arachnoid. Such cases, however, if they do occur, must be rare. The author does not believe that the source of the watery fluid in all cases is the sub-arachnoid space, but in most cases, and especially those where it is clear and abundant from the commencement, and he refers to Mr. Hilton's Lectures in proof of this statement. Extensive separation of the sutures co-existed with the fractures in 14 cases; separation of the coronal suture occurred in seven cases, and of the lambdoidal in three cases; of the sagittal suture in four cases. In one case, and in one only, there was separation of a suture without a fracture; it occurred in the posterior part of the squamo-parietal suture.—*Lancet*, June 11, 1853.

55. *Entire Resection of both Superior Maxillary Bones*.—The complete extirpation of both superior maxillary bones has been twice performed by HEYFELDER.

CASE I. A. Schmidt, aged 25, came to the Clinique, June 13, 1844, suffering from a tumour of the face, which, from his account, had commenced a year ago, in the posterior part of the palate, and had gradually involved both superior maxillary bones. The nose was pushed upwards, and flattened; the palatine arch was depressed towards the tongue; the face was affected with oedematous swelling; both respiration and deglutition were impaired, speech was embarrassed, and the sleep broken. The teeth, though loosened, were sound; only two incisors were wanting. The tumour appeared everywhere hard, uneven, and insensible to the touch, and did not pass beyond the boundaries of the superior maxillary bones. The constitution was good; lancinating pains had been felt in the tumour only during the last few weeks.

Dr. Heyfelder concluded that the tumour was of an indolent malignant character, and that the only remedy consisted in the entire removal of both maxillary bones. The operation was performed, June 23, 1844. The patient being seated in a chair, the head resting against the chest of an assistant, two incisions were made from the external angles of the eyes to the labial commissures, and the included parts were reflected upwards to the internal angles of the eyes, and to the *ossa nasi*. The flap, thus formed, was raised towards the forehead, until the infra-orbital ridge was exposed. Then the chain-saw of Jeffray was passed through the speno-maxillary fissures, and the malar bones were divided; the maxillæ were next separated from the *ossa nasi*; the vomer and the thinner bones were cut with strong scissors; after which a chisel, applied with moderate force to the superior part of the tumour, was sufficient to effect its separation. The accessions of syncope prolonged the operation, which, however, did not last longer than three-quarters of an hour. Very little blood was lost; torsion and compression sufficed to arrest the hemorrhage. Two hours afterwards, the edges of the wounds, from the angles of the eyes to the corners of the mouth, were united by twenty-six points of suture, and cold lotions were applied; there was no reaction nor swelling; the patient could swallow water and broth. Four days after the operation, it was remarked that the wounds had become almost entirely united by first intention. In six weeks, the patient was presented at the Physico-Medical Society of Erlangen, and on August 25, he was discharged.

The following was his condition: There was no deformity of the features; in the mouth, there was seen along the median line a fissure thirteen lines long and three lines broad; the extirpated parts had been replaced by the tissue of

a cicatrix, firm and solid at the circumference, but somewhat softer near the fissure; the soft palate and the uvula were in their natural place; deglutition was free, and the tongue in a better state than formerly; the nose had resumed its usual form and direction; the face, which, before the operation, was monkey-like, once again possessed a human expression.

The microscopical examination of the tumour showed that it was of cancerous nature. Six months afterwards, the patient, in good health, went to work in the fields; but in the summer of 1845, Dr. Heyfelder was informed that another tumour was forming in the forehead.

CASE II. Martin Lochner, aged 55, was affected in the upper lip, twelve years ago, with a cancerous growth, which was operated upon three years after its appearance. For two years there was no return; but, subsequently, a small tumour developed itself near the cicatrix, approached the nose, and excited violent pains. Soon a cancerous ulcer formed, which extended over the right half of the upper lip, the ala nasi, and the palate. The patient came into the hospital Jan. 21, 1850, in the following state: A horrible cancerous ulcer, commencing at the right commissure of the mouth, occupies the greater part of the upper lip, and has destroyed both the right ala and the septum nasi. All the parts were covered with painful, bleeding, fungous growths. The palatine arch was converted into an irregular, knobbed, cancerous mass; most of the teeth were lost; an offensive secretion was constantly flowing, and the patient was thinned and worn out.

The operation was performed January 24. Two incisions were made, exactly as in the preceding case. The chain-saw was used to separate the left os malæ, and Liston's bone forceps to divide the right. The remains of the septum nasi and the vomer were cut with strong scissors. A considerable quantity of the soft parts was likewise taken away. The bleeding was easily arrested, and the wounds were united as well as possible by suture. The patient was fed by a syringe. The left coronary artery bled three hours after the operation, but it was easily tied. The case went on well; and, on February 18, when the patient was presented at the Physico-Medical Society, the following was his condition: The greater part of the wounds were united; but a deficiency existed in the face, corresponding to the disease, at the superior part of which were seen the vertical portion of the ethmoid, and the two ethmo-turbinal bones. In the velum palati there was an opening, two centimetres wide. The destruction of the lip and of the nose produced on the right side a triangular opening, the base of which corresponded to the mouth, and the superior angle to the root of the nose.

He can take liquid food, but his speech is unintelligible; but, when the opening in the palate is closed by the sponge, he can make himself understood. Autoplastic operations were unadvisable, from the exhausted condition of the man.—*Med. Times and Gaz.* July 30, from *Rev. Medico-Chirurgicale de Paris*, 1853.

56. *New Splint for Fractures.*—Mr. WINCHESTER, on a recent occasion, brought before the Medico-Chirurgical Society a new form of apparatus for treating fractures of the extremities generally. He urged the necessity for restoring the limb to its original normal condition, in order to insure its entire usefulness, and the difficulty which is sometimes experienced by surgeons in attaining this end, which at times is so great as to be insufferable. The great difficulty is to secure perfect coaptation of the ends of the broken bone during the entire process of union, owing to the limb being bound up, and thus concealed from the eye of the surgeon. Mechanical contrivances should therefore be such as do not of themselves tend to injure the shape and strength of the limb; but, by maintaining the natural form, preserve it without fear of displacement during the process of repair. This, the author thinks, cannot be accomplished with the apparatus at present in use. Taking the form of the sound limb as the guide by which to adjust the broken one, the author has been led to the construction of a splint which he considers superior to any hitherto constructed. The principle sought to be attained is to procure a model of the sound limb by means of an adjustable splint, which may then be applied at once to the injured one.

The splint consists of distinct pieces, each about five inches long, which, by means of screws, can be fixed at any desired angle. In applying this splint, the patient is placed on his back in bed, the sound limb extended, and the broken one placed as nearly as possible in the same position. The splint is then laid against and fastened to the outer side of the sound limb by means of straps, and the form of the limb being thus taken, is secured by the screws. It is then immediately turned and applied to the broken limb, a wet many-tailed bandage having been previously applied and secured by the straps, the exact form and length of the sound limb and natural form of the broken one being thereby maintained. The advantages which the author claims for this apparatus are, correctness of principle, simplicity of construction, facility of application, and efficiency. After its application, the parts retain their natural position, no displacement takes place through the movements of the body, and there is no necessity for readjustment. The perineal bandage is not required, nor any fastenings at the foot, by which to make extension. The author thinks this splint peculiarly applicable in cases of fractured neck of the thigh-bone; and considers that in all cases of fracture, both of the upper and lower extremity, as well as in diseased joints, it will afford more effectual support than any other apparatus. It does not give rise to any of the inconveniences due to retained perspiration, and any part of it can be removed at pleasure, so as to apply dressings, allow the escape to discharge, &c. Another great advantage is, that, should passive motion of any joint be required, it can be obtained without the removal of the splint.—*Half-Yearly Abstract*, vol. xvii. from *Medical Times and Gazette*, Dec. 25, 1852.

57. *Treatment of Compound Fractures by Occlusion*.—M. TRASTOUR details, in a series of papers, numerous cases of compound fractures he had witnessed in M. Chassaignac's ward, illustrative of the favourable results that have followed their treatment by "occlusion." The treatment consists in the immediate application of a cuirass of adhesive plaster, which is retained *in situ* for several days, all surrounding inflammation being kept down by leeching, if necessary. M. Trastour's report is highly favourable; under this plan the wound far more rapidly heals, pain and traumatic fever are much diminished, as is the chance of the occurrence of nervous delirium, tetanus, erysipelas, and purulent infection. In cases in which it may be doubtful whether amputation will be required, it enables us to wait with safety for the decision, and brings these traumatic cases in nearer relation to the cases in which amputation is performed for disease, and in which its results are so much more satisfactory. Since we have adopted this practice, M. Chassaignac never amputates for traumatic injuries of the fingers, however violent the injury may have been. Even when reunion does not take place, very much larger and better stumps result from leaving the case to nature.—*Half-Yearly Abstract*, vol. xvii. from *Archiv. Gén.* vols. 29, 30, and *Med.-Chir. Rev.* April, 1853.

58. *Early Operation for Hare-lip*.—ANDREW NOLAN records (*Dub. Med. Press*, June 2, 1853) a case of operation for single hare-lip on an infant six hours after birth. The child did not seem to suffer very much after the operation was complete, and took drink, apparently without suffering, next day. The lower needle was removed in *sixty* hours, and the upper in seventy-two. Union was perfect.

59. *Local Treatment of Carbuncle and Furuncle*.—MR. RICHARD FLINT recommends the application of litharge plaster, spread upon white kid, as the best treatment of boils and carbuncles:—

"The mode of application is the following: After spreading the plaster in the ordinary manner, it is to be cut in dimensions according to the size of the carbuncle or boil to be dressed; carefully observing that it is large enough to include from half an inch to two or three inches of the surface around the tumour. Where this is large and deep, as in a carbuncle from four to six or eight inches in diameter, the circumference to be embraced should be proportionately large; and the leather in such a case should be chosen soft and strong,

in order to obtain an amount of adhesive mechanical support to the surrounding and subjacent parts, so as to enable them to originate and establish a new action. It must be well remembered that it is not enough, in any of these dressings, to cut the plaster the exact size only of the tumour. It is expected that some of the surrounding surface should be taken in also.

"In twenty-four hours after dressing, a favourable change in the appearance of the parts is generally discernible; and—what will be allowed to be a highly important result, in those cases where the local irritation is fast inducing a state of cerebro-spinal distress and lesion, likely soon to end in coma and death—it will often, in a less period of time, afford a mitigation of suffering which comes upon the patient like a charm, and restores him the rest and sleep to which he had long been a stranger. If the tumour be prominent or pointing in any part, a crucial incision is to be cut in the plaster, and placed directly over it, that the discharge may have free egress; and should there be at first no suppuration, this mode of dressing quickly promotes it, and assists the living parts to detach and throw off, at the least possible loss, the sloughy cellular membrane. If the tumour is not disposed to slough or suppurate, the application decidedly hastens the resolution or absorption of the effused matter.

"In a boil, the dressing is precisely the same as in a carbuncle; taking care that the plaster has sufficient hold of the tissues around—perhaps from half an inch to an inch. In a few hours, the acute pain and suffering of the patient, which had unceasingly disturbed his rest and comfort, become greatly mitigated, and soon afterwards wholly removed; and the improvement in the condition of the parts is strikingly apparent on every renewal of the plaster. The little trouble and inconvenience of this method, both to patient and surgeon, strongly contrast with the inconvenience, wearisome labour, and attention required by the old plan; and whilst the latter necessarily confines the patient, even in minor cases, to the house, in bed, or on couch, the former will often be little or no restraint on his usual avocations.

"It is requisite that the plaster be changed more or less frequently, according to the extent of discharge or slough; but the longer the interval, the more desirable, as the less the parts are disturbed the better. If there be much discharge or slough, soiling the cut edges of the plaster, it may be changed once a day; if there be little, every third or fourth day will be sufficient; but the linen pledgets and bandage adjusted over the plaster, and absorbing the discharge as it exudes, may be replaced frequently. In general, no other dressing is required to the end of the treatment. The plaster must be reduced in its dimensions as the tumour lessens in size, whether it be by suppuration, slough, or absorption. In some instances, towards the close, simple or calamine cerate may be desirable. The solution of the nitrate of silver, of the strength of $\frac{3i}{\text{℥i}}$ to $\frac{3i}{\text{℥i}}$, will also be found of great value as a cicatrizer; for I concur with my friend, Mr. Higginbottom, that, besides other valuable properties, which he has so ably advocated, there is no agent in the surgery so useful for promoting healthy cicatrization, or removing excoriations, as lunar caustic. It likewise excels all other means in giving increased vigour and strength to a new cicatrix.

"From what I have seen of this method of treatment in a number of patients during the last several years, and from the speedy relief or total removal of pain and distress in the worst cases, and in bad temperaments, I have looked upon it as of great value, if attentively carried out; for I am persuaded that it will render recourse either to the knife, to caustic remedies, or any of the other more severe measures of our art, unnecessary. Should, however, the choice of the surgeon and patient lead them to the latter alternative, I would strongly enforce that, whether it be the knife or the caustic, it be always used at an earlier stage of the disease than is yet commonly practised; as this, like the early free incision in diffusive inflammation of the cellular membrane, will prevent the destructive ravages of tissue, as well as the fatal constitutional symptoms which follow the unchecked and protracted course of the disease."

Mr. Flint states that it has long been a practice with him "to use, with a similar object, and from the same mode of reasoning, a like plan of dressing in various classes of tumours, of a subacute or chronic kind, where there is an evident deficiency in the vital actions of the diseased and contiguous parts; and

it has appeared to me more successful in many cases than the ordinary treatment by fomentations, poultices, and embrocations. Where there is an unavoidable suppurative tendency, the plaster will accelerate it better than the cataplasm. When the tumour is disposed to point, the cut edges of the plaster, as in the former case, should be placed directly over where it is desirable for it to open; and I find it well accomplishes this object."—*Assoc. Med. Journ.* July 15, 1853.

60. *Retention of Urine in Children.*—Dr. JOHN TOLER communicated to the Surgical Society of Ireland the two following cases of retention of urine from a rare mechanical cause.

Mary Carney, a girl of 13, was brought to my house, May 4, 1848, by her mother, who stated she had not micturated for twenty-four hours, and that she had been under the charge of a dispensary doctor for some days, who had repeatedly visited her, prescribed medicine for her, and ordered a warm-bath; but finding her daughter suffering a great deal, and latterly becoming stupid and continually slumbering, she became frightened, and brought her to me. I found the bladder much distended, she complained of not being able to micturate, and if I ceased speaking to her she became lethargic. On examination, I found the vagina completely occluded by a firm membrane, which was attached to the inferior part and sides of the orifice of the vagina, but had free edge above; it had grown up until it completely covered the meatus urinarius, and thus prevented the egress of a drop of urine. I at once passed a director between the membrane and the pubis, and divided it downwards, so as to free the urethra and orifice of the vagina at the same time. She passed a quantity of urine, and appeared relieved. I directed her mother to keep a candle between the divided edges for a few days. I was obliged to draw off her urine twice a day for three or four days, the bladder having lost its power of expulsion from over-distension.

The other case was Anne Mechan, aged 12, who was brought to me by her mother, April 19, 1849. She stated that she perceived her daughter frequently sitting down to urinate, that she would only make a few drops at a time, and would cry with pain on doing so. I found the bladder distended; and having had the experience of the former case, I suspected that the same malformation existed, and on examination found the very same kind of membrane occluding the vagina and extending upwards, so as almost to completely obstruct the meatus urinarius. I easily divided it, as in the former case, by passing a director between the free edge above and the pubis; and cutting downwards, so as to free the meatus urinarius and orifice of the vagina at the same time, I gave her the same directions as in the case above recited, and she rapidly recovered.

Now, I consider these cases as highly instructive, as the first would soon have proved fatal from the blood being poisoned by the retention of urea in the circulation, if she had not been relieved by an operation, the cause of the retention having escaped the notice of the medical person who visited her; and the second case was rapidly approaching the same state. So that in all cases of retention of urine in the female which cannot be satisfactorily accounted for, the existence of such a membrane should be looked for, and, if found, the patient can be quickly and easily relieved by a simple operation.

Dr. Bellingham said that, within the last six weeks, a female infant, aged about three months, had been brought to St. Vincent's Hospital by its mother, who stated that she believed there was something wrong with it. On examination, he (Dr. B.) found the orifice of the vagina obstructed by a membrane which extended completely across it, and was evidently analogous to that described by Dr. Toler. A small orifice existed in the membrane anteriorly, which permitted the passage of a probe. A director was therefore introduced under it, and the membrane, which had about the thickness of good writing paper, freely divided with a bistoury.

Dr. Fleming was much gratified by Dr. Toler's interesting communication. In the last number of the *Dublin Journal*, he made some remarks on the urinary diseases of children, in connection with morbid conditions of the urine, and it so happened that amongst the cases where irritability of the bladder and re-

tention of urine occur in children under particular circumstances, he made mention of the particular lesion under discussion, and stated that he performed, with a view to its cure, the very operation now proposed by Dr. Toler. He was satisfied that in most if not all of these cases the lesion was congenital, and that it might not be productive of any irritability of the bladder until something occurred which called on the bladder to perform a somewhat unusual duty. Some time ago, he saw a female child who had laboured under scarlatina, and who was then suffering under one of the sequelæ of that affection, namely, albuminous nephritis, accompanied by anasarca, a very common occurrence. The child did not suffer, at any previous time, from irritability of the bladder; but so soon as the defective secretion of urine, which was the necessary attendant of the first stage of the disease, had subsided, and yielded to treatment, the greatest possible irritability of the bladder supervened, and with it hæmaturia; and, on making an examination, he discovered the very identical little membrane described by Dr. Toler; and, strange to say, it had wholly escaped the observation of the child's mother. A thin membranous septum existed in the median line, and behind this again was a small fold extending downwards from the clitoris, on the division of which all irritability of the bladder subsided quickly.

Mr. Adams observed that the subject of retention of urine in children and young persons, appeared to him one calculated to excite much interest here; and as there did not seem to be any member of the Society disposed to make any observations specially referable to the peculiar cases of retention of urine this evening brought before the Society by his friend Dr. Toler, he would, if permitted, take the present opportunity of alluding to one class of cases of retention of urine in young children which he had witnessed. The symptoms of the affection, in these cases, resembled much those which characterize the disease called by Desault *dysuria senilis* (the time of life of the patient only being different); the treatment required nearly resembled that recommended by Desault for the dysuria he described. In September, 1847, I visited, while in Paris, the hospital for the treatment of diseases of the urinary organs, so ably presided over by M. Civiale. One morning, when I was present, a girl, aged nine years, was brought to M. Civiale by her mother, who stated that the girl passed her water involuntarily during the night, and had a very frequent desire to micturate during the day; upon which, at once, M. Civiale observed that this girl, he thought, would be found, on farther examination, to be one of those cases he had frequently seen of incontinence of urine combined with an over-distended condition of the bladder; this, he said, he thought he should presently demonstrate to be the case by desiring the patient first to retire and empty her bladder, and that then, on her reappearance before the class, he should introduce the catheter, and thus ascertain whether the voluntary efforts of the patient to empty the bladder had proved efficient or not. The opinion M. Civiale ventured to hazard proved to have been incorrect; for on the reappearance of the patient, on introducing the catheter, no urine flowed. I mention the case merely to show that M. Civiale stated that he had frequently met with this very affection of the bladder in children I am now endeavouring to draw attention to. I may here, perhaps, illustrate the disease in question, and the treatment suitable for it, by detailing the following case briefly: In October, 1847, I was called upon to see a child of the Rev. Mr. G——'s, which was nearly four years old. I was informed by a medical man, since dead, who had been previously in attendance, that the complaint the child laboured under he considered was mesenteric disease, which had succeeded to gastric fever; that he could feel a hard tumour in the abdomen; that the child laboured under an incontinence of urine, but still had a frequent desire to pass water. I visited this patient, bringing with me a catheter. When I placed my hand over the lower part of the abdomen, I felt a hard tumour, which I recognized at once as an over-distended bladder. This organ felt, to use the late Mr. Colles's language, "as hard as a football." I introduced at once the catheter, and drew off a large quantity of urine. The tumour disappeared, but the operation gave only temporary relief; hip-baths and fomentations proved most comfortable to the little patient. Purgative enemata were also used, all which afforded relief;

but after some time, the symptoms proving still obstinate, I had recourse to the same plan as that recommended for the treatment of the dysuria senilis by Desault; that is to say, I drew off the urine carefully twice a day for one fortnight. Under this surgical treatment, the retention and stillitoidium urinæ ceased. How long the bladder had been left in an over-distended state before I had seen the patient I know not; but I found that although, by the surgical treatment mentioned, the tone of the bladder was restored, still, the continued over-distension of the mucous membrane, and decomposition of the retained urine, had left behind a disease (catarrhus vesicæ) still to be contended with. The urine presented morbid characters, having become muco-purulent, and occasionally was tinged with blood. I, therefore, in addition to the other means already alluded to, ordered the child to take, in large quantities, a weak infusion of buchu. One pint of boiling water was poured upon four scruples of the buchu leaves, and this tea the child took willingly from his nurse for the period of six months; and so freely did the child take this medicine, that he consumed the above-mentioned quantity every twenty-four hours. The little patient, in due time and season, was brought to the country, and was frequently put into salt-water baths; they were at first used hot, and subsequently cold. Without the surgical treatment (consisting in the use of the catheter) nothing could have arrested the disease in this case; but I would strongly recommend the use of the buchu as here adopted, and the long perseverance in it, as this medicine seemed to me to have a most beneficial influence on the catarrh of the bladder, which long remained after the dysuria had been relieved. Ultimately, the recovery was complete; and I am happy to say that the child, now about eight or nine years of age, enjoys perfect health.—*Dublin Med. Press*, March 23, 1853.

61. *Collodion for Erections accompanying Blennorrhagia.* By Dr. DORINGER.—In the *Med. Central Zeitung*, there is reported a case of a rather curious application of collodion for gonorrheal erections, and the result was such as we would like to see borne out by other cases: A young man, aged 28, was attacked for the third time with a blennorrhagia, which was accompanied by such severe and painful erections, that the patient could hardly stay in bed for an hour. After having tried without avail both camphor and narcotics, Dr. Doringen ordered cold fomentations, and when the penis had resumed its natural size, the application over its whole extent, even including its prostatic portion, with a strong coating of collodion. This had the desired effect, for from that moment the patient had no erection, and suffered only from a slight scalding in passing urine. What proves that the amelioration was really due to the means employed is, that on the morrow, the collodion being taken off, the erections returned, but not so severely, and again ceased on the application of a fresh coating of collodion.—*Dub. Med. Press*, June 29, 1853.

OPHTHALMOLOGY.

62. *Partial Opacity of the Lens, producing the Symptoms of Short Sight.*—A form of cataract is occasionally met with in which the opacity amounts to no more than a faint haziness, uniformly diffused throughout the lens. An opacity of this kind will escape any but the closest and most practised observation, and the subject of it will probably be regarded as incurably "short-sighted." Glasses afford little, if any assistance in such cases, and the patient, therefore, remains unfitted for most of the ordinary employments of life.

A well-marked instance of this affection has lately been under the care of Mr. Dixon. The case is farther noticeable for the rapidity with which the lenses became absorbed when broken up with the needle, and the excellent sight and healthy appearance of the eyes, after the completion of the cure.

John B., a fine boy of 13, was brought to the hospital in March, 1852, in

consequence of "extreme shortness of sight." He could read small type at a distance of three or four inches, but could not distinguish the features of persons a few feet off. He had tried various kinds of concave glasses without benefit. The eyes looked bright and healthy, the irides were very active, and there were no irregular movements of the globes. On looking attentively at the pupils, Mr. Dixon observed that they had not the deep blackness which might be expected in a lad of thirteen; and yet they could not be termed "gray" or "milky." Atropine was applied, and then, under concentrated light, each lens was seen to be faintly streaked throughout its whole extent with fine lines, except the extreme margin, which retained its transparency. The lad was to be employed in a counting-house, but his limited range of vision rendered the pursuance of such an occupation almost impracticable.

Keratomyxis was performed on the right eye March 12. By the 7th of May absorption of the lens was complete. A central opening was then made in the opaque capsule, to such an extent as to leave the pupil perfectly clear. The contractility of the iris and roundness of the pupil remained unimpaired.

The needle was used to the left eye on the 20th of August, and again about two months later. These two operations procured the entire absorption of the lens. The patient returned to the hospital early in the present year, and then the pupil was cleared of capsule by an operation similar to that which had been performed on the other eye, a mere ring of that membrane being left, which was completely hidden by the iris in the ordinary state of the pupil. With moderately convex glasses the lad is now able to go through the usual routine of a counting-house with perfect ease.—*Med. Times and Gaz.* June 18, 1853.

63. *Fluid Cataract—Puncture of Capsule, and immediate removal of the fluid from the anterior chamber.*—Mary Ann R., aged 22, applied at the hospital with cataract in the left eye. No defect of sight had been noticed till she was six or seven years old, at which time her mother observed "a speck" in the left pupil. Of late years this has been getting whiter and more evident. When she was brought to the hospital, in April, 1853, the appearance of the lens was milky, with a faint, bluish cast, and irregularly mottled with chalky-white patches. The iris was very active, and there was good perception of light. The right eye was in all respects healthy. Mr. Dixon expressed a belief, that the lens had undergone that gradual process of disintegration and softening which reduces a cataract to a fluid state. He performed keratomyxis on the 22d of April, and, as soon as the capsule was lacerated, its fluid contents escaped, and rendered the aqueous humour turbid. Mr. Dixon has recently published some remarks on the good effect of immediately evacuating the effused fluid in cases of this kind, as a means of preventing the distressing nausea and vomiting which occur when the fluid is allowed to remain in the anterior chamber.¹ This treatment was pursued in the present instance; a broad cutting-needle having been introduced through the cornea, at the spot whence the cataract-needle had been withdrawn, was rotated, so as to make the wound gape a little, and the whole of the liquefied lens ran out with the aqueous humour. Towards evening, the patient had a slight feeling of sickness, but this lasted for a short time only, and she slept well. In the morning, she had again a little nausea, which soon passed off, and did not return.

On May 20, Mr. Dixon tore up the capsule to such an extent as to leave the pupillary space perfectly free, and excellent vision has resulted.—*Med. Times and Gaz.* June 18, 1853.

64. *Cure of Squinting by the Use of Prismatic Spectacles.* By T. SPENCER WELLS, F.R.C.S.—Dr. KURKE, a Dutch physician, first recommended prismatic spectacles for the cure of squinting. He has recorded one case cured by their use in the Dutch journals. Dr. Von Gräfe, of Berlin, has since employed them very extensively. During a recent visit to Berlin, I had frequent opportunities

¹ The Lancet, Feb. 26, 1853.

of observing their effects upon his patients, and I think that the result of his experience should be made known to the profession in England.

The glasses are fitted in ordinary spectacle frames. They are simple prisms of various degrees, from 1 to 20. It would be possible to make them achromatic; but I have only seen the ordinary ones in use.

The operation upon the sound eye, as explained by Dr. Von Gräfe, is as follows: When a prismatic glass is held before one eye on any point of sight in the converging direction of the optic axis, the light falling upon this eye is diverted from its former course, and no longer arrives upon the macula lutea, but forms a more or less eccentric picture, according to the refracting power of the prism. From its position, this is no longer combined with the central picture on the other retina into one perception, but is perceived separately. Thus the object upon which the optic axes converge is seen double.

Theoretically, this phenomenon should be observed when a prism of very moderate power is used; but observation teaches us, on the contrary, that no diplopia follows when weak prisms are employed, especially if the base be directed outwards. This might be explained in two ways. Either the picture on one retina is suppressed, or the eye which sees through the prism takes a new position, which is not perceived by the observer, so that the picture is not formed eccentrically, but falls, like that of the other eye, upon the macula lutea. The improbability of the first supposition at once appears from the fact that no diplopia is produced by weak prisms, while more powerful ones produce it at once, and the greater the eccentric position of the picture the more easily it would be suppressed. The truth of the second explanation is established by a more exact observation of the position of the eyes. On applying the prism we see the optic axes deviate from their former position and return to it as the prism is removed. At the moment of removal the object is seen double, because both axes are not directed upon it. Thus, in order to prevent diplopia, an involuntary strabismus occurs, and we can produce this in any direction by corresponding positions of the prism, but most decidedly so inwards, less so outwards, much less so downwards, and least of all upwards. We can also produce strabismus in this manner in diagonal directions.

It follows that, by the use of prismatic glasses, we have the power of altering the tension of any given muscle of one eye without producing any alteration in the other. This is the peculiar advantage which none of the ordinary orthopaedic means formerly employed possessed. On the contrary, the result hoped for from their employment was not only frequently frustrated by the movements of association of the two eyes, but sometimes, as in cases of recent muscular paralysis, an effect directly the reverse of that desired was brought about.

The increased contraction called for from the relaxed muscle by the use of prismatic glasses is the source of their curative power. For example, in a case of convergent strabismus with diplopia, a prism, with its base directed outwards, alters the position of the eccentric picture on the retina of the squinting eye so greatly, and brings it so near the macula lutea, that single vision follows any voluntary power conveyed to the abductor muscle. Consequently, the angle of the squint is somewhat diminished. As it becomes less, and the power of the abductor increases, prisms must be used gradually diminishing in power, until at last a perfectly accurate corresponding position of the eyes is attained at all distances—in other words, the squint is perfectly cured. I have seen patients of Dr. Von Gräfe's, who were thus completely cured in about six weeks, commencing with strong glasses of the numbers from 15 to 20, and gradually wearing them less and less powerful. They are principally applicable in young persons, who squint but slightly; and in cases of diplopia biocularis, where the abnormal position of one eye is only observed when an object some feet distant is regarded, they are the only certain means of cure.

In more marked degrees of strabismus the muscle must be divided, because the use of strong prisms, and the efforts of the patient to avoid diplopia, become very troublesome; and, if the union of the two images causes too great an effort, an effect is produced exactly the opposite of that desired; for if the diplopia cannot be removed, the double images separate still farther from each other, because, when distant, they are not so intolerable as when near.

In many cases after operations for the cure of strabismus by division of the muscle in one or both eyes, although great improvement follows the cure is not perfect. Some degree of squint still persists in one eye, and probably some diplopia, when objects at certain distances from the eye are attentively regarded. In such cases, the prismatic glasses suffice to complete the cure commenced by the operation. I saw several instances in which this proved to be the case in the practice of Dr. Von Gräfe.

I have patients under my care at present who are wearing these spectacles, and I shall take a future opportunity of making the results known. Messrs. Watkins and Hill, opticians, of Charing-cross, have had the glasses ground and fitted for me, and make them at any angle which may be required. Messrs. Bland and Long, of Fleet-street, also make them.

NOTE.—Of three patients who have used the glasses, two have been greatly improved, and still go on favourably. In the third, where the power of the squinting eye was very much less than that of the opposite one, the strongest prism which could be worn without producing diplopia was ineffectual, and I had to recur to the old method of exercising the squinting eye while the other was covered. I do not use an ordinary shade or bandage as a covering, but have an India-rubber ring, which fits the orbit, covered on the outside with silk, and fastened by a ribbon. This allows free motion of the eye and eyelids, while the light is perfectly excluded.—*Med. Times and Gaz.* Aug. 27, 1853.

65. *New Method of operating for Strabismus by a temporary Ligature.*—M. TAVIGNOR sent in a memoir, the object of which is to explain a new method of operating for strabismus. This new operation is founded on the following idea, that, instead of lengthening a muscle supposed to be too short, you must shorten a muscle in reality too long. Instead of leaving the eye to oscillate with difficulty, and sometimes sluggishly, between two muscles, one of which is mutilated by a section, and the other remains always more or less powerless, my method of operating, says the author, attacks the longest muscle, and not only shortens it by a sufficient length to equal that of its antagonist, but it farthermore acts by increasing its physiological contraction.

First Operation.—The longest muscle—that is to say, that one which is opposed to the deviation being exposed in the ordinary manner for strabotomy, the operator proceeds in the following manner: A blunt-hook, with an eye at its extremity, is passed underneath the muscle, so as by lifting it up to detach it from the globe of the eye. The hook is then carried forward, so that its concavity embraces the muscle at a little distance from its aponeurotic expansion. A thread of silk is then passed through the eye of the hook, then the hook itself is brought towards the operator, leaving the ligature under the muscle. By a double twist of the ends of the thread on one another, a simple, yet very resisting, knot is obtained. There only then remains to finish the operation, to tighten the knot, and cut away one of the ends of the ligature. The other end is brought to the corresponding angle of the eye and fixed to a spot on the circumference of the orbit.

The first effect of this ligature is to render the lateral fibres of the muscles more central, and thus to bring about a shortening of this organ. The second effect is to develop an adhesive inflammation, which not only fixes permanently the abnormal juxtaposition of the muscular fibres, but also establishes adhesion between the muscle and subjacent sclerotic membrane.

The ligature not being intended to produce division of the muscle, must consequently be only temporary. Towards the end of the second, or beginning of the third day, it can be easily taken off by means of gentle traction carefully applied to the end which remains.

This first operation may not in all cases produce the effect which we have described. Very severe strabismus will no doubt prove refractory. It is at least with this idea that I devised a way of making it more efficacious.

Second Operation.—The hook having been passed under the muscle, as in the preceding case, the ligature is passed, not directly under the muscle, but under the hook, so as to embrace the muscular expansion.

Before going farther, it must be discovered by a momentary constriction if the globe is perfectly restored to its normal position. To prove experimentally that the ligature has effected the required degree of shortening, we must proceed, during the operation, in the following manner: The ligature being passed once under the hook, a different coloured thread must be passed through the loop thus formed, then constriction is made by means of the first-mentioned ligature, but taking care to make only one knot, and to make it a single one only. The hook is then withdrawn, and the eye left to itself. The changes in its direction can now be judged of accurately. If the globe is not brought back sufficiently, a larger quantity of muscular tissue must be embraced by the ligature; if the globe is too much brought back, a lesser quantity of muscular tissue must be inclosed; but in either case the ligature already put on must be withdrawn as soon as possible. Owing to the precautions we have adopted with this view, nothing is more easy; the eye being fixed, one end of the ligature is drawn with one hand, while the other hand pulls the thread passed through the loop of this same ligature. The knot gives way immediately to this opposed extension. There only then remains to pass the hook again underneath the muscle (if it has not been already done before taking away the ligature) and recommence the operation, keeping in mind the data furnished by the first trial.—*Dublin Medical Press*, July 20, 1853, from *Presse Méd. Belge*.

66. *Epiphora*.—Mr. BOWMAN has pointed out a form of epiphora depending upon displacement of the inferior. This may exist with little or no eversion of the margin of the lid, but “the natural prominence on which the punctum is placed is wanting, and, instead of it, there is a flattened or rounded cutaneous surface, on which the orifice may be discerned (though with difficulty) at a little distance from the mucous surface of the lid, and much reduced in size, being in fact never wetted by the tears, but dry and contracted.” The more frequent causes of this displacement of the punctum seem to be either a chronic inflammation of the neighbouring conjunctiva causing thickening and slight eversion, or some cutaneous affection of the lower lid. For a fuller illustration of the subject, we refer to Mr. Bowman’s interesting paper in the thirty-fourth volume of the *Medico-Chirurgical Transactions*. The treatment consists in slitting up the canal from the punctum to such an extent as to carry back the orifice to that part of the conjunctival surface where the tears are collected. It is necessary, for a few days, to open up the wound by means of a probe, and thus convert the canal into a groove.

Mr. B. BELL records two cases of this form of epiphora which he has successfully treated by the plan recommended by Mr. Bowman:—

“The first case in which I had recourse to this proceeding was a lad of sixteen, who had met with a serious laceration of the eyelids some years previously. The healing process had caused a slight displacement of the punctum, without eversion of the lid itself; and the consequence was, that the tears were constantly collecting and standing in the eye, and so producing not only much discomfort, but considerable disturbance of vision. I performed the operation already described, with the effect of completely remedying the evil. The next case was a young female of seventeen, in whom the symptoms were similar, although the displacement of the punctum seemed to have originated in the more common cause of chronic inflammation of the conjunctiva. The same treatment was equally successful.

I may remark in passing, that in performing the little operation, it is of importance to employ a probe large enough to distend and steady the canal. I have since had recourse to a similar procedure under circumstances somewhat different. A lady of middle age had an obstinate vascular induration, involving the punctum and causing a displacement of it, so slight as to be scarcely visible, but sufficient to cause a troublesome epiphora when she was exposed to the open air or a strong light. Seeing no speedier mode of removing the inconvenience, I passed a probe along the canaliculus, and then, introducing the point of a fine iris-knife, divided the entire swelling. The epiphora ceased, the induration quickly disappeared, and the punctum resumed its functions.”—*Monthly Journ. Med. Sci.* Sept. 1853.

MIDWIFERY.

67. *Case of Turning, instead of Craniotomy, in a contracted Pelvis.* By JOHN TRAILL, Esq.—Mrs. R., rather undersized, but otherwise apparently well formed, was confined of her first child in May, 1836, being then in her twenty-sixth year. Her labour, from the commencement, was tedious, notwithstanding the employment of bleeding, tartar emetic, etc.; and, after two days' duration, she was attacked with violent convulsions, which were overcome only by profuse bleeding, and were followed by complete coma.

In this state, the head being still at the brim of the pelvis, she was, with great difficulty, and after much delay, delivered by the forceps, the child having evidently been dead for some time. The recovery was imperfect and protracted.

Her second confinement took place in June, 1838. It was again most difficult and protracted; and, after two days' continuance, resulted in convulsions, followed by stupor, which continued for more than a week. She was again, with even more difficulty than formerly, and after several hours' exertion, delivered of a dead child by the forceps, after we had all but decided on having recourse to craniotomy, which, indeed, had this case occurred some years later in my practice, I should, without hesitation, have performed at an earlier period of the labour, and which, in subsequently reflecting on the case, I have often blamed myself for so long delaying.

In both labours, I had the advice and assistance of Dr. Bruce, and of my brother, Mr. W. Traill.

The patient remained for several weeks in a dangerous state, and her recovery was so slow that she was unable to leave her bed for several months afterwards. She never regained her usual health, constantly suffering from irregular and scanty menstruation, with violent headache, and determination to the head.

At this time I had decided, in the event of pregnancy again taking place, to recommend the induction of premature labour.

Some months ago, Mrs. R., now in her forty-third year, informed me that she was again pregnant, and that she expected to be confined about the end of May.

Having carefully studied Professor Simpson's papers on "Turning as a Substitute for Craniotomy," and believing it to be a favourable and proper case for the plan proposed, I decided on allowing labour to go on to the full time.

May 19.—This morning I was called to Mrs. R., and was greatly annoyed to find her in a most unfavourable state. The membranes had given way six days previously, and the liquor amnii had since been constantly dribbling off; moreover, she had had smart labour-pains for thirty-six hours, and was in a complete state of mental prostration and hopelessness as to the result, both to herself and the infant; so much so, that the child's dead-clothes were provided, and she protested against my being sent for, declaring that she had no chance of being delivered for days to come. On examination, I found the head firmly impacted at the brim of the pelvis, but only a small part within reach of the finger elongated, and the scalp swollen; the os uteri, about the size of a crown piece, not acted on by the pains, but quite dilatable; the contraction at the brim of the pelvis was greater than I had calculated on—the sacro-public diameter did not appear to me to exceed three inches.

Having decided on still attempting to turn, I gave chloroform to the full extent, and then with some difficulty succeeded in pushing up the head, and passing the hand into the uterus. I found the liquor amnii almost entirely evacuated, and the uterus closely enfolding the infant; the pulsation in the cord was weak; and, while searching for the foot, the child had repeated convulsive movements. This induced me to hurry the operation as much as possible; but I found considerable difficulty in bringing the head through the brim, so that fully half an hour elapsed before delivery could be completed. The child, a male, rather under the average size, was quite still for several minutes, but ultimately recovered.

When the mother awoke from her sleep, and heard the cries of her infant,

she would not be convinced but that we were deceiving her, both as to her own delivery and as to the possibility of having given birth to a living child. She has made a rapid and excellent recovery, without one untoward symptom, and now, in better health than she has enjoyed for eighteen years, is suckling her child, a strong, healthy boy.

The gratifying result of this case has very strongly impressed on my mind the soundness of the principles on which Professor Simpson has advocated his proposals as to the practice of turning in contracted pelvis, and has led me to believe that the facility afforded to the advance of the head through the brim of the pelvis, in consequence of its changed position, and of the traction which we are enabled to exert through the extruded body of the child, is much greater than could at the first view be considered possible.

If I had been aware of the degree of contraction existing, I do not think I should have ventured to allow labour to go on to the full period. The head was of average size, or very nearly so; the sacro-pubic diameter, I am certain, did not exceed three inches (I believe it to have been considerably less); but, be that as it may, I found the head firmly wedged, and yet only just entered within the brim, after thirty-six hours of continued smart uterine action, whilst the state of the child's circulation and nervous system, as ascertained by the hand *in utero*, showed that its life could not have been much longer protracted.

I cannot, therefore, doubt that by the practice pursued the life of the child was saved; nor do I think that the benefits resulting to the mother can be considered less important.

From the degree of deformity of the pelvis, the firm impaction of the head, and its non-advancement, notwithstanding the prolonged uterine action, I do not believe that delivery by the long forceps would have been possible. I believe that craniotomy must ultimately have been resorted to; followed, as in the two previous labours, which occurred under circumstances in every way more favourable, by *at best* a tedious, protracted, and imperfect recovery.—*Monthly Journ. Med. Sci. Aug. 1853.*

68. *On Painful Distension of the Vagina after the Birth of the Child.*—Dr. LEOPOLD states that he has several times met with examples (never in primiparæ) of excessive suffering, coming on from half an hour to an hour after the passage of the child, and referred to the vagina. It is of the most agonizing character, described by the women as worse than when the child is passing, and causing them to twist and toss about in agony. It arises from distension of the vagina, either by accumulated coagula, or a very large placenta. In the first case, owing to the quantity of blood lost, there are always the early symptoms of uterine hemorrhage; and the women, usually having suffered already from hemorrhage in former labours, are dreadfully frightened at their danger. The softish but not distended uterus is felt pushed up into the umbilical region. The hand should be at once introduced into the vagina, and, after the coagula are completely removed, it should be retained there for at least half an hour, keeping two fingers on the watch within the relaxed os uteri, and irritating this if required.

In the other case there is always a large placenta, which will not yield to moderate traction, partly because its size prevents it from easily traversing the vaginal passage, partly from a spasmodic action of the *constrictor cunni*, and partly because the membranes still remain in connection with the uterus to some extent. Notwithstanding the pain it will cause, the entire hand must be passed into the vagina, so as to embrace the whole placenta and bring it down.—*Brit. and For. Med.-Chir. Review*, July, 1853, from *Neue Zeitschrift für Geburtshunde*.

69. *On the Administration of Chloroform during Parturition.* By JOHN SNOW, M. D.—It is unnecessary now to employ or allude to any of the abstract reasons which have been given for using or withholding chloroform during labour, since a sufficient number of observations have been made to enable the question to be decided by experience. I believe that no one disputes the power of chloroform to relieve the sufferings attendant on parturition; and, therefore, the

only consistent objection that can be made to it is, that some danger or disadvantage may arise from its use. It is well known that, out of the vast numbers of patients to whom this agent has been administered for the performance of surgical operations, a few have unfortunately died whilst inhaling it, or a minute or two afterwards; but it is satisfactory to know that no accident of the kind has happened in the practice of midwifery. This should not be looked upon as a mere coincidence, for there are sufficient reasons for concluding that there is no danger from the exhibition of chloroform during labour by a medical man using ordinary care, even though he may have had no previous experience in its employment. In the first place, the effect which it is necessary to produce in parturition is so much slighter than is required for a surgical operation, that it is not necessary to approach even half-way to a point that would be dangerous if it were exceeded; and, in the next place, the chloroform never requires to be given except whilst there is pain, relief of which serves as a sign for its discontinuance; which sign is not present in exhibiting it preparatory to the commencement of a surgical operation.

There have, however, been some cases in which death has been attributed by certain authors to chloroform, which had been administered during labour. Dr. Ramsbotham relates one such case; but I doubt whether he would have considered the result to be due to this medicine, if he had had an extensive experience of its use either in obstetric or any other class of cases. The chloroform was given occasionally, and apparently very judiciously, during the last four or five hours of labour in this case. Dr. Ramsbotham relates that, at the conclusion of the labour, "the uterus contracted well, and the patient appeared comfortable. At the end of an hour and a half, however, distressing dyspnoea came on, attended with excessive lividity of the face, and all the signs of extensive engorgement of the lungs and heart. Her respiration became more natural under the means employed, and in three hours and a half she lay down to rest; but in half an hour she suddenly arose with a return of the most distressing dyspnoea; this was soon followed by convulsions, and almost immediate death. No inspection of the body took place."

A case somewhat similar to the above occurred in the practice of Dr. Murphy, who, however, does not attribute the fatal result to the action of chloroform. In this case, the chloroform was exhibited very sparingly during the last two hours of labour, the patient not being rendered unconscious. She fell asleep after the expulsion of the placenta, but awoke in two hours with cough and difficulty of breathing. These symptoms increased in spite of treatment, and the patient died a little more than twenty-four hours afterwards. The lungs were found to be greatly congested, and the kidneys were in a pretty advanced stage of granular degeneration.

Fatal congestion of the lungs is one of the results of Bright's disease. I have seen it in the male subject. It is not improbable that, in the case related by Dr. Ramsbotham also, there was either permanent disease or temporary congestion of the kidneys, and that toxæmia existed in both cases. The occurrence of convulsions a little before death in the latter case renders this the more likely. At all events, the symptoms in the above cases do not coincide in the least with the known effects of chloroform, even when exhibited much more freely. It must be remembered also, that the unfavourable symptoms did not commence till an hour or two after the effects of the chloroform had subsided; and in this time the system gets more thoroughly rid of this medicine than of a dose of opium in two or three days.

As chloroform is not a preventive of all the "ills that flesh is heir to," it might be expected that puerperal mania should happen after some few of the many cases in which it is used, especially as it has been inhaled more generally by sensitive and susceptible patients than by others. Dr. Ramsbotham alludes, in a foot-note, to an attack of puerperal mania "which had supervened on the exhibition of chloroform;" but he does not state at what period the mania commenced; whether, for instance, it was an hour or a month after the inhalation. Other cases, or possibly the same one, have been mentioned in the medical societies; but no particulars have been related. I have been told, respecting one case of puerperal mania, that the patient had long been in the

habit of inhaling chloroform very freely (taking it often when no one was present) to prevent attacks of epilepsy, to which she was subject.

It was said that, in some of the early cases in which chloroform was employed, the uterine contractions were so much enfeebled by it, that delivery had ultimately to be accomplished by the use of the forceps. It is not improbable that the over free use of this agent might lead to such a result; but I believe it would not arise from its judicious use. It has happened that, in all the cases of manual and instrumental delivery in which I have given chloroform, it was exhibited only in consequence of the operation; for the other cases in which I have administered it have all terminated without artificial assistance.

The propriety and advantages of administering chloroform in parturition being admitted, a frequent inquiry is: In what cases ought it to be employed? It will be readily conceded that, in cases where the pain is not greater than the patient is willing to bear cheerfully, there is no occasion to use chloroform; but when the patient is anxious to be spared the pain, I can see no valid objection to the use of this agent, even in the most favourable cases. The benefits arising from chloroform in severe cases of labour are experienced in a lesser degree in favourable cases; and the patient may be fairly allowed to have a voice in this, as in other matters of detail which do not involve the chief results of the case. The determination of the kind of labours in which chloroform should be used or withheld is really a matter of not much importance; because, as we pass from cases that are severe and protracted to those which are short and easy, the quantity of chloroform that is used, and the amount of diminution of the common sensibility, and of interference with the mental functions become so trifling, that very little remains about which to hold a discussion. Indeed, from what I have observed of the continued use of this agent in medical cases, and its use by healthy persons for experiment, I believe that the quantity which is inhaled in a short and easy labour might be continued daily for an indefinite period, without appreciable effect on the health.

The above remarks apply also in some measure to the question as to the period of the labour when the exhibition of chloroform should commence; for, in proportion as the pains are feeble, it must be more sparingly administered. The most usual time when the accoucheur and I have determined that the inhalation should be commenced, has been when the os uteri was nearly dilated to its full extent, and the pains were taking on an expulsive character. In many of the cases which I have attended, it has, however, been commenced much earlier; for the suffering caused by the dilating pains in the first stage of labour is often very great, and the chloroform is consequently of the utmost service when employed at this time.

As regards the manner of giving chloroform, I shall first allude to cases not requiring manual or instrumental assistance. In such cases, when it has been determined to resort to inhalation, the moment to begin is at the commencement of a pain; and the chloroform should be intermitted when the uterine contraction subsides, or sooner, if the patient is relieved of her suffering. It is desirable to give the chloroform very gently at first, increasing the quantity a little with each pain, if the patient is not relieved. The practitioner easily finds, with a little attention, the quantity of vapour which it is desirable to give at any stage of the labour, and in each particular case; his object being to relieve the patient without diminishing the strength of the uterine contractions and the auxiliary action of the respiratory muscles, or with diminishing it as little as possible. At first, it is generally necessary to repeat the chloroform at the beginning of each "pain;" but after a little time it commonly happens that sufficient effect has been produced to get the patient over one or two uterine contractions without suffering, before it is resumed.

When the practice of inhalation in midwifery was first introduced by Dr. Simpson, he very naturally adopted the plan which is usually followed in surgical operations, making the patient unconscious at once, and keeping her so to the end of the labour. It was soon found, however, by other practitioners, that this is not necessary, and indeed it would not be safe in protracted cases. Drs. Murphy and Rigby were, I believe, amongst the first to state that relief from pain may often be afforded in obstetric cases without removing the con-

sciousness of the patient, and I soon observed the same circumstance. Some persons, indeed, have alleged that the pain of labour can always be prevented without making the patient unconscious of surrounding objects; whilst others have asserted that no relief can be afforded unless unconsciousness be induced. But both these opinions are directly opposed to experience. There are comparatively few cases in which the suffering can be prevented throughout the labour without interfering with consciousness, although there are very many cases in which it can be in this way prevented in the early part of the labour. This difference depends in some measure on the constitution of the patient, but chiefly on the severity of the pain to be prevented. It is in accordance with what is observed in medical and surgical cases, that the pain should be removed in some instances without abolishing consciousness, and that in other instances it should not; for in certain cases of neuralgia, the pain is so severe, that no material relief can be obtained by chloroform, as long as consciousness is retained; and in surgical operations, although it now and then happens that the minor and concluding parts of an operation, such as tying vessels and introducing sutures, can be performed without pain, whilst the patient is consciously looking on, a free incision in the skin can hardly ever be made under similar circumstances without pain.

The external evidences of the uterine contractions continue as before, when the patient is rendered unconscious by chloroform, and the muscles of respiration are called freely into play, to assist the action of the uterus in the second stage of labour. The aspect of the patient under these circumstances, is generally that of one who is suppressing the expression of her sufferings, and any relative or friend who comes in, without knowing that chloroform has been given, begins to praise the unconscious patient for her fortitude. On some occasions, indeed, there are groans and cries, as of suffering; but the mind being unconscious of pain, it can hardly be said to exist.

It may be remarked that complete anæsthesia is never induced in midwifery, unless in some cases of operative delivery. The diminution of common sensibility to a certain extent, together with the diminution or removal of consciousness, suffice to prevent the suffering of the patient during labour; and she never requires to be rendered so insensible as in a surgical operation, when the knife may be used without causing a flinch or a cry. The nerves of common sensation must be allowed to retain their functions to a certain extent during labour; otherwise the assistance of the respiratory muscles, which consists of reflex action or "motion arising from sensation, without the aid of volition," would not take place, even if the contractions of the uterus should still continue.

The effects of chloroform on the brain should not be carried during labour beyond what I denominate the second degree of narcotism, or that condition in which the mental functions are diminished, but not altogether suspended, except when the effect of the vapour is associated with natural sleep. The patient under the influence of chloroform to this extent, has no longer a correct consciousness of where she is, and what is occurring around her, but is capable of being aroused to give incoherent answers, if injudiciously questioned. In this state, the patient will sometimes assist the labour by bearing down voluntarily, if requested to do so, and be otherwise obedient to what is said; and by withholding the chloroform for a few minutes, she at any time becomes quite conscious. As a general rule, it is desirable not to hold any conversation whilst the patient is taking chloroform, in order that her mind may not be excited. The plan mentioned above, of giving the chloroform very gently at first, also has a tendency to prevent its causing mental excitement, the patient coming gradually under its effects. In surgical operations, excitement of the mind can nearly always be avoided by carrying the patient pretty rapidly into a state of insensibility, in which the mental functions are necessarily suspended. But in the practice of midwifery, it is not allowable to cause a state of coma or insensibility, except in certain cases of operative delivery, hereafter to be mentioned.

I nearly always employ, in obstetric cases, the inhaler that I use in surgical operations. There is not the same necessity for an accurate means of regulat-

ing the proportion of vapour in the air which the patient is breathing during labour, where but a trifling amount of narcotism requires to be induced, as in surgical operations where a deeper effect is necessary; still, I find the inhaler much more convenient of application than a handkerchief, and it contains a supply of chloroform which lasts for some time, thereby saving the trouble of constantly pouring out more. When I do administer chloroform on a handkerchief during parturition, I follow the plan that I recommended in a former communication on this subject,¹ of putting only about fifteen minims of chloroform on the handkerchief at one time.

The quantity of chloroform administered during any one pain, never exceeds a very few minims; but the quantity used in the course of a protracted labour is often considerable. Two ounces and a half by measure is the largest amount I have used in one case; but as the apparatus was used, this quantity would go as far as seven or eight ounces employed in the most careful way on a handkerchief. I have not kept any patient continuously unconscious for more than two hours; and eight hours is the longest time I have had to administer chloroform in any case; but it has been continued for a much longer period, without ill effects, by Dr. Simpson and others.

Chloroform can be best applied where there is an additional medical man, who has not to attend to the ordinary duties of the accoucheur; but it can be given very well by the accoucheur himself, so as to save the greater part of the suffering of labour; although he perhaps cannot always administer it in the perfect way in which he could, if he had no other duties to divide his attention.

It is probable that the use of chloroform has no particular influence over the duration of labour, in the whole number of cases in which it is employed; but individual labours are occasionally either retarded or quickened by it, according to circumstances. In some cases, the chloroform, even when very moderately employed, diminishes both the strength and the duration of the uterine contractions, and prolongs the interval between them, thereby making the labour somewhat longer—a matter of no consequence, however, as the patient is not suffering in any way. In other cases, the inhalation causes the uterine action to become stronger and more regular, by removing the excess of sensibility by which it has been interfered with. This occurs more particularly in the first stage of labour. In some cases, also, the chloroform seems to act as a direct stimulant to the uterine contractions, increasing their force and frequency—a circumstance at which we need not be surprised, when we remember that both opium and brandy, in moderate quantity, often act in the same manner. Chloroform has also the effect of promoting the dilatation of the os uteri in many cases, even when no rigidity exists; and when there is rigidity of the os uteri, the inhalation is of the utmost service, and shortens labour very much. This is the case, also, when there is rigidity of the perineum.

During delivery with the forceps, or by perforation, the chloroform requires to be administered very much in the same way as in ordinary cases. It must be given at each pain, so as to prevent the suffering of the patient without checking the uterine contractions. It generally, however, requires to be given a little more freely than in natural labour. Dr. Murphy has related three cases of delivery by the forceps, and one by perforation, in which I assisted him, four or five years ago, by giving chloroform and Dutch liquid, which I was trying at that time. The operations were chiefly undertaken on account of deformity of the pelvis; and the patients recovered very favourably. I have given chloroform in only one case of midwifery in which the knife was used. It was a case of Dr. Murphy's, in which he had to make an artificial os uteri. Of course, under such circumstances, the patient is made insensible at the time of operation.

When it is necessary to introduce the hand into the uterus to turn the child, the chloroform requires to be given in a pretty full dose, so as to suspend the

¹ *London Journal of Medicine*, vol. i. p. 54. It should be recollected that minims of chloroform are very different from drops; two minims being equal to nine drops from the lip of a small phial.

uterine contractions; and as soon as the operation of turning is performed, the inhalation should be discontinued for a short time, to allow the action of the uterus to return, and assist in the expulsion of the child. In the autumn of 1849, I administered chloroform in a case of presentation of the shoulder, attended by Mr. French of Great Marlborough-street, and in a case of presentation of the elbow, attended by Mr. Marshall of Greek-street, Soho; the operation of turning was performed with singular facility in both cases, although the membranes had been ruptured, and the liquor amnii evacuated some time. The uterus afterwards contracted well in both cases, and expelled the placenta in a few minutes. In a case of natural presentation, in which turning was performed by Dr. Murphy, on account of narrowness of the pelvis, and the impossibility of applying the forceps, the introduction of the hand was difficult from want of space, but the uterus offered no resistance.

In other cases in which it is necessary to introduce the hand into the uterus, chloroform is of equal service. On Dec. 26, 1850, I was requested by Mr. Cooper of Moor-street, Soho, to assist him in a case of retention of the placenta. The patient had given birth to a child two hours before, and Mr. Cooper had introduced his hand, but had been quite unable to bring away the placenta, on account of firm contraction of the uterus, in a sort of hour-glass form. On the chloroform being administered, the hand was easily introduced, and the placenta detached and extracted. There was very little hemorrhage. I may here state that I have seen hemorrhage, to any considerable amount, in only one case in which I have given chloroform, and the patient had suffered from it in some of her previous confinements.

It is often asked, whether the chloroform has any effect on the child. It is quite certain that the fœtus must receive a portion of the chloroform into its circulation, as it does of any other medicine which is absorbed into the blood of the mother; and when sulphuric ether was the agent employed, its odour could be perceived in the child's breath after birth. The fœtus must therefore be influenced by the chloroform, though generally to a less extent than its mother, as it receives its dose only at second-hand. It has seemed in some cases that the child was less acutely sensible to the cold air than usual at the time of its birth; and when the mother is unconscious from chloroform, I have not seen it kick and scream in the violent way, and grasp the bedclothes with the force, during the first minute after its birth, that is often observed under other circumstances. With these exceptions, no effects of the chloroform on the child can be perceived.—*Association Med. Journal.*

70. *Impending Death from the Inhalation of Chloroform in Labour; Recovery by Insufflation.*—M. BOINET has just published, in the *Bulletin de Thérapeutique*, the case of a lady, 30 years of age, who inhaled chloroform to escape the pain of having the forceps applied. She was short and ill-proportioned, and it had been a question whether the natural term of gestation should be waited for, or whether premature labour should be induced. The former course was adopted, but the head became locked at the outlet of the pelvis. Before the forceps were used, a cambric handkerchief, upon which about two drachms of chloroform had been poured, was held at a short distance from the patient's nose. She was soon quite insensible, without experiencing any excitement; and as the operation was being prolonged, M. Boinet desired the husband to place the handkerchief again to the patient's mouth, as she was beginning to move about, and to utter faint cries. The traction was now renewed, and the child extracted; but the husband, being engrossed by the operation, and the perilous situation of his wife, left the handkerchief upon her face, though he had been recommended to take it off immediately the patient was again insensible. Just as the child was being withdrawn, the assistant, who was watching the pulse, stated that it had stopped. The cord was quickly cut, the child removed, and the windows thrown wide open. The heart had ceased to beat, the most complete relaxation of the frame existed, the pallor was extreme; in fact, all the characteristics of death had made their appearance. For five minutes cold water, ammonia, slapping, &c., were used with the greatest sollicitude, but in vain, and the patient was declared dead. M. Boinet thought, however, that he should not give up the

case until he had tried the mouth to mouth insufflation. This mode of filling the lungs with air remained at first ineffectual, as the cheeks flapped back immediately the blowing ceased; bellows were also tried, but to no better purpose. And now, finally, as M. Boinet states, a few more direct insufflations were attempted; more to avoid the imputation of leaving the patient too soon, than from any hope of recovering her. These were then continued with great energy, while the assistant pressed the lower part of the thorax, to excite the diaphragm to action. At last the patient made an inspiration, which the author compares to the last gasp of a dying person; and he continued the insufflation without much hope of observing a second inspiration, as the pulse and heart were quite still. But in a few seconds a second breathing effort took place, and the patient gradually recovered, exactly as happens with those who wake from their narcotic sleep without having experienced any arrest of circulation. When the patient had quite recovered, the placenta was taken away, and she made a very good recovery. The question now arises whether this was a mere swoon, which would have been recovered from without any efforts at insufflation.—*Lancet*, Sept. 10, 1853.

71. *Uterine Vivaces*.—The *Association Medical Journal* (June 17, 1853) contains an interesting contribution towards a pathological history of uterine "vivaces," by EBEN WATSON, M. D., Professor of the Institutes of Medicine in the Andersonian University, Glasgow.

M. Levret, in the *Mémoires de l'Académie Royale de Chirurgie* for 1777, published an elaborate paper, *Sur les Polypes de la Matrice et du Vagin*, in which he makes mention of a kind of polypus under the name of "vivaces."

The following is an abridgment of his description of them: They are, he says, ordinarily unattended by lancinating pains, or by sanious discharges, such as occur in malignant diseases of the uterus; but they cause frequent hemorrhages, like common polypi. They differ from them, however, in having no enveloping membrane, or, at all events, a very delicate one. They are found in two forms; either like *digital vegetations*, more or less long, thick, and numerous, parts of which break off, and come away from time to time with a hemorrhage; or they may be found in one mass, somewhat globular in form, and rendering the womb large and painful; and, though the vagina be found full of this mass, the womb is not at all emptied of it—"ainsi, comme il est communément impossible de parvenir à détruire la cause immédiate de ces fongosités, c'est peine perdue de travailler à les retrancher." "Ces excroissances," he writes at another place, "doivent être censées incurables, parceque ces ne sont que trop communément des végétations de quelque ulcère de l'intérieur de la matrice."

M. Herbiniaux, in his *Traité sur divers Accouchements laborieux, et sur les Polypes de la Matrice*, published at Brussels in 1794, gives a more lengthened account of vivaces. He expresses the same opinion with M. Levret, of their origin and incurability.

Cases of this disease have also been recorded by HERBINIAUX, GOOCH, Dr. JAS. HAMILTON, Dr. D. D. DAVIS, and Dr. BULLEN of Cork; and a case is related by Dr. Watson, in this paper, which occurred in his practice.

From the cases which have been recorded, Dr. Watson gives the following generalization of the chief features of vivaces:—

"In the first place, then, vivaces generally indicate their presence suddenly and without previous warning. There are no symptoms as yet recorded, from which any physician can infer their presence within the womb, until a discharge of blood occurs; and even then the diagnosis is obscure. The excessive pain in the lower part of the belly, taken along with the profuse hemorrhages, seems, at this period, to be the only mark fitted to excite a suspicion of the real nature of the case. But we are not kept long in suspense, for the progress of the growth is always very rapid. Within three months, in my case, it had fully distended the womb. The physical signs are then sufficiently marked; viz. the bloody discharge, the stretching of the uterine neck so as to form a tense diaphragm with an aperture in its centre, and the granulated and insensi-

ble growth, felt through it, fixed by a broad base to some part of the internal surface of the organ.

"The termination of the case has hitherto been invariably fatal, sooner or later; death being caused either by gradual exhaustion, or more rapidly, by the occurrence of colliquative diarrhoea, which is the common liberator of the victims of inveterate uterine disease.

"What, then, is the nature of this growth? Is it composed of vegetations from an ulcerated surface, as supposed by Levret, or, is it identical with the cauliflower excrescence of Dr. Clarke, as has been asserted by Dr. Gooch?

"In attempting to answer this question, I would observe that I do not regard the obvious difference of position or site as establishing any essential difference between vivaces and the cauliflower excrescence. At all events, as Dr. Gooch has remarked, they do not, in that respect, differ from each other "more than polypus of the neck and orifice from polypus of the fundus of the uterus." And Sir B. Brodie's case, referred to by Dr. Gooch (*op. citat.* p. 304), would seem to be an instance of the occurrence of the cauliflower excrescence *within* the womb.

"But, while I acknowledge that the growth just named may occur, though very rarely, within the uterus, still, I believe that certain marked differences exist between it and vivaces. The most important of these is the pre-existence of ulceration of the internal surface of the uterus. This occurrence was very clearly evinced in the case, which I have narrated as having occurred in my practice, by the pain and tenderness on pressure above the pubes. But I must confess that the profuseness of the hemorrhage, at this stage of the affection, remains unexplained; nor do I know of any circumstance capable of throwing light on the phenomenon. There was no evidence, at that period, of a growth within the womb; and the pain of the fundus uteri was not felt until after several severe hemorrhages. If we could suppose that some one or more enlarged and atheromatous vessels had been ruptured by the shock of the patient's fall, and that the wound, thus occasioned, ulcerated instead of healing, we might, perhaps, explain the history of the case; and, although it is a theoretical, it is the only feasible explanation I am able to give. But, however this may be, there can be no doubt of the reality of the inflammatory action which speedily ensued, and which, though actively treated, terminated in vegetations.

"On the other hand, the cauliflower excrescence of Dr. Clarke is seldom accompanied by pain; indeed, I may say, never by pain so severe as that which precedes the formation of vivaces. The former is a still more insidious disease than the latter; and hence Dr. Clarke, in his original paper, lately republished by the Sydenham Society,¹ informs us that he had never found it less in size than a blackbird's egg.

"Another remarkable point of distinction seems to flow from the preceding. It regards the nature of the discharge. That from cauliflower excrescence is generally limpid and watery, hardly soiling the linen, and becomes only occasionally bloody, as at the menstrual periods, which are not often disturbed at the first, or after some violent bodily exertion, capable of breaking the delicate structure of the growth. Whereas, in cases of vivaces, the discharge is either bloody or purulent, and ere long it becomes very fetid; evidently proving the much greater amount of vascular action going on in the latter than in the former instance. The watery discharge from the cauliflower excrescence seems to be a mere mechanical transudation of serous fluid mixed with the increased mucous secretion of the irritated vagina, and sometimes, also, with the cast-off cells of the growth itself. In all such cases, too, when hemorrhage occurs, small brainy masses may be found in the discharge, identical in structure with the cauliflower excrescence. Such hemorrhage, therefore, is likewise mechanical, flowing from ruptured substance of the growth. But it is far otherwise with vivaces. They often die and come away as putrid matter, but never seem to break from delicacy of structure; and the hemorrhage in these cases must proceed either from the progress of the original ulcer, or from the smaller vegetations from its surface, which still retain their vascular nature. The longer

¹ Essay on Diseases Peculiar to Women.

and more bulky growths are to all appearance *vascular*, being white and spongy, and filled with cheesy substance like concrete pus. For, as I remarked above, the ordinary discharge, in cases of vivaces, is always purulent when it is not bloody; this, of course, arises from the progress of the ulceration, which is continually sustained and prevented from healing by the mass of its own unhealthy vegetations.

"This leads me to mention, as a fourth distinction between these two kinds of uterine growth, that vivaces do not shrink in bulk after death, as happens in such a remarkable manner with the cauliflower excrescence from the os uteri. But I regret that, for reasons formerly mentioned, I cannot speak with precision on the minute internal structure of vivaces. If, however, I am warranted in concluding from the history of such cases, especially those points in it to which I have just adverted, that vivaces are nothing more than exaggerated vegetations from an ulcer of the womb, matted together by inflammatory effusions, and perpetuating the morbid lesion from which they originated, then nothing can be more different than their internal structure compared with that of true cauliflower excrescence. For, as I have elsewhere more fully explained (*Edinburgh Monthly Journal of Medicine*, for Nov. 1849), the latter growth consists of a congeries of simple and compound cells, some of which are expanded into delicate bags containing blood-corpuscles. These bags exist chiefly on the margin of the excrescence; and, when they burst, they leave the fibrils or hair-like processes, which mark the latest period of its history. It seems to be the peculiar property of these cells to withdraw serum from the blood in the uterine vessels, and to permit its exudation through their walls, thus constituting the greater part of the discharge. But, of course, this ceases at death; and then the cells collapse, or, in other words, the excrescence shrinks away. But no such function is performed by vivaces, and no such shrinking occurs in them after death; and therefore I do not think the inference unfair, that no such mechanism exists in them as in the cauliflower excrescence.

"I have not hitherto introduced the question, whether or not vivaces are malignant in their nature. The opinion of Levret as to their being incurable, and some of the cases recorded by Herbiniaux and others, would seem to indicate that such really was the case. But I am inclined to think that vivaces may or may not be malignant, according to the character of the ulcer from which they spring. This opinion is founded on that which has already been stated and proved, with such data as I possess, regarding the pathological significance of the vivaces themselves; and I think it unnecessary to enlarge upon this point at any greater length. Suffice it to remark, that on this important feature of the case will depend the prognosis and the treatment.

"I do not assert that all cases of malignant disease are incurable, when I say that malignant ulcer of the body of the womb belongs to that category. Its advance is generally considerable before it is clearly diagnosed, and even then it is out of the reach of efficient means of eradication. And when the vivaces have sprung from a non-malignant ulceration, it may still be impossible to root out the morbid parts before the patient's condition has become a hopeless one. In some cases, however, it may be attempted by ligaturing the long vegetations, making the cord cut as well as strangulate the growth, and then cautiously but effectually applying a caustic substance. I should myself prefer the common caustic, because its action, as well as the bleeding, might be conveniently arrested by injections of vinegar and water. As soon as possible thereafter, alteratives and tonics should be given to change and improve the action of the internal surface of the womb. But I feel that I cannot, with propriety, even attempt to frame directions for the treatment of vivaces; and I therefore leave it to others to draw the practical inferences deducible from the preceding pathological data regarding that very rare but most interesting affection of the uterus."

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

72. *On the Mode of Death from the Inhalation of Chloroform.*—The *Monthly Journal of Medical Sciences* for September of this year, contains a highly interesting and valuable paper on this subject by Mr. E. R. BICKERSTETH, of Liverpool.

The consideration of the mode of death from the inhalation of chloroform, is of the utmost importance as affecting the principles on which it should be administered, the indications that should, as well as those that should not, excite alarm; and above all, the means of resuscitation that may be rationally employed in cases of impending death. "So frequently do we see recorded," remarks Mr. B., "cases of death from the inhalation of chloroform, that no doubt can be entertained of the fact that it is a most powerful and poisonous drug, and that, unless proper precautions be taken, its administration may prove not only dangerous, but often fatal."

Mr. Bickersteth has destroyed several animals by an overdose of chloroform, with a view of ascertaining by what means death took place. The points he was chiefly desirous to ascertain were:—

"1. Whether, in death from inhalation of chloroform, the organs of respiration or of circulation first ceased to perform their functions? and,

"2. If the respiration should first fail, could it be restored by maintaining artificial respiration, for a period sufficiently long to allow the narcotizing or paralyzing influence of the chloroform to pass away?"

The following are the results arrived at by Mr. B. from his experiments:—

"1. That, in death from the inhalation of chloroform, the respiratory movements cease before the cardiac.

"2. That the heart continues its action, uninfluenced by the chloroform, for a period longer or shorter after the cessation of respiration, and that its then failing may be considered as a natural consequence of the respiration having ceased, and as independent of the influence of chloroform.

"3. That if, after the respiration has ceased, and while the heart is still in action, chloroform continues to be absorbed into the system, its movements may become impaired or cease—the chloroform in such case acting directly upon the heart.

"4. That if artificial respiration be resorted to before the cardiac contractions are seriously affected, and be properly maintained for a sufficient period, the respiratory function may be re-established."

To show that these principles are applicable to the human subject, Mr. B. narrates some cases which occurred under his own observation, in which artificial respiration was the means of restoring the natural respiratory efforts when life appeared to have all but gone.

"CASE I. A boy was cut for stone by my friend, Mr. Hakes, on the 29th of March, 1849. Chloroform was administered on a piece of sponge, and the full anæsthetic effect produced, before proceeding to tie him up in the ordinary position; the inhalation was continued, without any regard to his condition, until the operation had been completed—altogether about five minutes from the time he first became insensible. It was noticed that during the operation scarce a drop of blood escaped. When it was over, the child was found to all appearance dead—the muscles were flaccid; the surface of the body pale; the respiration had ceased; the pulse could not be felt; the heart sounds were not audible (but the room was by no means quiet); the eyes were half open; the jaw dropped; the pupils dilated; and the corneæ without their natural brilliancy. Several means were tried to resuscitate him, but without effect. At length artificial respiration was commenced—the air escaped with a cooing sound, as if from a dead body. After continuing it for a while, the breathing commenced, at first very slowly and feebly. Soon it improved. In two hours the child had quite recovered."

"CASE II. In December, 1851, a child a few months old was put under the

influence of chloroform, for the purpose of having a nævus removed from the right cheek. As soon as insensibility was produced, the operation commenced, the handkerchief containing the chloroform remaining over the face, as some difficulty had been experienced in keeping up the anæsthetic effect. Suddenly the breathing ceased; the muscles became flaccid; the countenance pale and collapsed; and the lips of a purple colour. Artificial respiration was employed, and in less than a minute the breathing returned, and the child was restored.

"CASE III. On the 6th of March, 1852, I had occasion to remove the finger of a robust, healthy looking young man in the Royal Infirmary. He was already under the influence of chloroform when I entered the room, and as there had been some difficulty in producing complete anæsthesia, and the last of the chloroform in the bottle was already on the handkerchief, it was thought advisable by my friend in charge of its administration to keep up the inhalation, in order to produce a coma sufficiently profound to last until the completion of the operation. It was therefore left over his face, and I commenced and removed the finger, slowly disarticulating it from the metacarpal bone. I distinctly recollect hearing the man breathing quickly and shortly, and I also remember that, when just about to look for the vessels, my attention was attracted to his condition by not any longer hearing the respiration. The handkerchief was still on his face. I took it off, and found, to my consternation, that the breathing had ceased; the face was livid; the eyes suffused; the pupils dilated; the mouth half open. He was to all appearance dead; still, the pulse could be distinguished as a small, hardly perceptible thread, beating slowly. Immediately artificial respiration was commenced. For a minute or two his condition did not alter in any respect—then the lividity of the countenance increased, the pulse was no longer perceptible, and the sounds of the heart could not be satisfactorily heard. The words of the gentleman who put his ear to the chest, and who was well practised in auscultation, were, 'I cannot be certain.' During the whole of this time, artificial respiration had been diligently employed, but still the air appeared to enter the chest very imperfectly. I despaired. I felt certain the man was dead, and that no human aid could restore him; and if it had not been that those standing near me had urged me to persevere, I believe I should then have deserted the case as hopeless. Just at this time it occurred to me to put my finger in the mouth and draw forward the tongue, in order to secure there being no impediment to the air entering the lungs. Retaining it in this position, we again began the artificial respiration, and found that then the chest was fully expanded with each inflation. After keeping it up for a minute or two, the gentleman who had all along kept his hand on the pulse, exclaimed, to our delight, that he could again feel it—'It was just like a slight flutter that reached the uppermost of his four fingers,' all of them being placed over the course of the artery. It gradually became more distinct and firmer, and at the same time, the lividity of the face decidedly lessened. In another minute the man made a slight inspiratory effort. I ceased directly the artificial respiration, and assisted merely the expiration by pressure upon the ribs. Another and another inspiration followed, and in a short time he breathed freely without assistance. The countenance became natural, and he appeared as if in a sound sleep. In half an hour he spoke when roused; then he vomited, and complained of giddiness. In an hour afterwards he had recovered sufficiently to walk home.

"Moments of intense anxiety appear much longer than they really are; but even allowing this, I am quite sure that, at the very least, five minutes elapsed from the time when the man ceased breathing before the first inspiratory effort took place, and that for not less than one minute, the pulse was imperceptible, and the heart's action almost, if not altogether inaudible.

"CASE IV.¹ A few weeks after the occurrence just described, I was assisting Mr. Syme in removing the breast of a lady. A gentleman, my superior in the hospital, was conducting the inhalation of chloroform. Anæsthesia was

¹ This case occurred shortly after the dissertation was in the possession of the Medical Society, and, consequently, did not appear in the original paper.

complete, and the breathing good, when the operation commenced. The chloroform was allowed to remain over the face during the whole time of its performance. Before it was over, I noticed the respiration become very quick and incomplete, and suggested, in consequence, the propriety of removing the handkerchief. My remark was neglected for eight or ten seconds, and then, just as it was taken away, the breathing ceased suddenly. The face became deadly pale; the eyes vacant; the lips livid. Instant dissolution appeared inevitable (the pulse was not felt). Artificial respiration was immediately commenced, but the air not entering the lungs freely, the tongue was pulled forwards and retained so with the artery forceps. The chest then expanded freely with each inflation, the air escaping with a cooling sound. In rather less than a minute the respiratory movements recommenced, but at first so slowly and imperfectly that it was necessary to assist expiration. When recovery was a little more established, the operation was completed. Before the putting in of the sutures, sensation had partially returned, and in a short time the lady had perfectly recovered.

"I would here direct attention to the expediency of drawing forward the tongue, in all cases when it is found necessary to resort to artificial respiration. When the patient is lying on the back, so soon as the breathing ceases and the jaw drops, the tongue is particularly liable to fall backwards and close the orifice of the glottis. Artificial respiration, under such circumstances, is worse than useless. It is better at once to pull the tongue well out of the mouth, and passing a hook through the tip, confide it to the care of an assistant. I am convinced that in some of the cases in which artificial respiration has failed, it has been from the neglect or too tardy adoption of this very simple means. Time of the utmost value has been lost in the absurd attempt to restore animation by applying stimulants to the nostrils, or pouring cordials into the mouth, without even a thought that the first can have little or no effect after the respiration has ceased, or that the second would as likely pass into the trachea and bronchi, as into the stomach.

"There can be no doubt that, in the foregoing cases, a grievous error was committed by continuing the inhalation after anæsthesia was produced, and that it was in consequence of this the accidents so nearly fatal occurred. After anæsthesia has been induced, the object for which chloroform is given is already accomplished, and there can be no use whatever for its farther administration. It is very easy and safe to maintain complete anæsthesia for hours together, by occasionally giving a few inhalations of the vapour when there are signs of approaching return of sensation; but to continue the inhalation without interruption after anæsthesia is fairly established, is most certainly very dangerous, and will, sooner or later, varying according to age and constitution, prove fatal. Anæsthesia or paralysis of the nerves of sensation, is but one of a series of changes produced upon the system by chloroform. Paralysis of the respiratory system is the next, and follows quickly afterwards, and if yet more be taken up, the nerves also of the organic system cease to perform their functions, and the heart in consequence is paralyzed. It is thus only in death that the influence of chloroform ceases. Let it be especially remarked, how precisely analogous the symptoms in the foregoing cases were to those observed in animals under similar circumstances. The respiration ceased for a considerable period before the pulse and artificial respiration being employed, the pulse returned before the respiration was re-established.

"If during the process of the inhalation of chloroform, the breathing and the pulse be carefully observed, at one and the same time, it will be found that no alteration in the frequency or character of the latter occurs, except such as may be fully accounted for by the peculiar excitement into which the patient is thrown, or by the muscular efforts that may be exercised. When first the inhalation is commenced, the pulse is generally more frequent than natural from the mental agitation ordinarily experienced upon such an occasion. Then, as calmness and drowsiness comes on, it falls to its natural standard; but now the period of excitement, as it is called, begins—violent muscular movements are made—and the pulse rises in consequence, and maintains its increased frequency until all efforts cease. When tranquillity is established, it gradually

falls, and as the stupor becomes more and more profound, it still sinks, until at length when every effort of the mind is at rest, and the body lies prostrate and inanimate, it is found to be even below its natural standard; and now it is, that for the first time during the process of the inhalation, the pulse may be relied on to maintain itself steadily and regularly, both in regard to character and to frequency. So long as the respiration continues, the pulse does not vary. I am well aware that this statement may be doubted, but it is nevertheless true, and will be found to be so in every case where the individual is fully under the influence of chloroform. Until anæsthesia is thoroughly produced, it has been shown that the pulse varies greatly in frequency and force, and this is the source of the common fallacy, that the action of the heart is directly influenced by chloroform, whereas its changes depend not on any property of the drug, but altogether upon external causes. It is no uncommon thing to see in the operating theatre of a hospital, the person who has the charge of the chloroform, with his hand constantly on the pulse, carefully noting its changes, and to hear him informing and alarming those around him, by hurriedly saying 'the pulse is very quick and small,' 'it's very slow now, sir,' &c., &c., and well may such information alarm an operator who is not aware that such varieties are perfectly natural, and will always exist until narcotism is fully established. And here again is another source of error, for no sooner has complete anæsthesia been produced, than it is discovered that the pulse is eight, ten, or even twelve per minute below its ordinary average, and so it is imagined the heart is becoming affected, and that the chloroform in consequence must be no longer continued. But during sleep, the pulse is less frequent than in wakefulness, and so it is during the sleep of chloroform, when every movement except those of organic life are in a state of profound repose. This is so constant, that by some it is supposed, and correctly supposed, that anæsthesia is not sufficiently complete for the performance of surgical operations, unless the pulse be below its standard.

"But the pulse should not be taken as any guide during the administration of chloroform. It should be wholly disregarded, except under certain circumstances, when syncope is to be feared from loss of blood, during the performance of capital operations. The pulse is only affected secondarily in consequence of the failure of the respiration. It therefore follows that our attention should be mainly directed to the latter, while the former may be altogether neglected, or at any rate considered as only of secondary importance. By carefully watching the pulse, the attention must in a measure be taken away from the respiration, and exactly to such a degree it is productive of evil; for, in order to guard against mishaps, and at the same time conduct the inhalation with confidence, the breathing must be observed with the greatest care and attention. But when it is thus asserted that death always commences in the organs of respiration, and that the heart only ceases to act in consequence of the lungs having previously failed in the performance of their functions, I would wish to be understood. In the first place, I should be sorry to deny the existence of individuals with such peculiar nervous idiosyncrasy, that the converse of this (the ordinary rule) might obtain. With such an example however I have never met, nor have I ever encountered a single occurrence that would lead me to suppose the heart peculiarly or rather primarily susceptible. In the second place, it must be remembered that if, after respiration has ceased, chloroform in any considerable quantity be absorbed into the system, it will act directly upon the heart and speedily stop its contractions. And thus, if with the last inspiration a sufficient quantity of the pure vapour is inhaled, the movements of the heart will cease almost immediately, and so it might appear that the respiration and cardiac contractions have stopped simultaneously, although in fact a brief interval has existed—an interval, in short, long enough to permit of the absorption of the chloroform taken into the lungs with the last inspiration.

"A peculiar and interesting fact, and one that I am inclined to think may account for many deaths, is, that in some individuals, when fully under the influence of chloroform, the pulse suddenly fails at the moment the first incision is made by the surgeon; and this, too, when the respiration is altogether natu-

ral. The first time I observed this peculiarity was in October 1851—the subject was a sickly emaciated boy, æt. 9, required amputation of the thigh on account of an exhausting disease of the tibia. He was quickly brought under the influence of chloroform, and was breathing well when Mr. Syme transfixed the limb. I had my hand on the pulse, and was carefully watching it. At the moment the knife entered it suddenly ceased, and remained imperceptible for the period of four or five pulsations, the countenance at the same time becoming deadly pale. As it returned it was at first very feeble, but in a few seconds it regained its usual strength. The breathing at the same time was very soft and quiet. Anæsthesia was maintained, and no farther untoward event occurred. The next case was that of a young lady, about 18 or 20 years of age, whose thigh Mr. Syme amputated in November last. Dr. Simpson administered the chloroform, and, after the operation, remarked that the pulse had stopped suddenly just as the knife was piercing the thigh, and had recovered itself with a flutter almost immediately. A third instance occurred soon afterwards on the 10th December, 1851. A woman, æt. 40, of pale emaciated appearance, and nervous excitable temperament, was placed upon the operating-table and inhaled chloroform. She inhaled it well, and was soon insensible, breathing stertorously. Then the operation (amputation of the thigh) was begun, and at the same instant the pulse stopped, and did not return for eight or ten seconds, when it was again felt as very faint and indistinct. It rapidly regained its force, and before another minute had elapsed, was as strong as before the operation. During this occasion the breathing did not flag at all, and had it not been for a slightly increased pallor of the countenance no visible change might have been observed.

“Although I have noticed the pulse at the moment of the first incision in almost every capital operation performed in the Infirmary, and many elsewhere since this period, I have never again detected the slightest variation in its character at this particular moment. It is therefore a very rare occurrence; but that it does sometimes happen, and that it is in some way connected with the injury inflicted upon the system at the moment of its first laceration, appears to me beyond doubt.

“A consideration of this subject might open an interesting topic as to how far shock is prevented by anæsthesia. By most of the advocates of chloroform it is altogether denied as incompatible with the profound stupor of perfect insensibility; and though we must all believe that, in a great measure, it is lessened, and even altogether avoided, we must, I think, at the same time admit that the fact of the pulse suddenly stopping at the moment of the infliction of severe injury, is positive proof that shock may be experienced by the nervous system. For how else can the occurrence of such a phenomenon be accounted for? And again, is there any reason that, because pain is no longer felt, the organic nervous system should be incapable of appreciating the amount of injury inflicted upon the body? The three cases which have fallen under my notice, and which I have just described, have fortunately not been severe. The shock has quickly passed away; the action of the heart has quickly recovered itself; or, in other words, the syncope has lasted only for a few seconds. But it might have been otherwise; the syncope might have been permanent, and death the immediate consequence; or, even had the first syncope been recovered from, so prolonged might have been the effects of the shock that a second or third relapse would have occurred, and death at length resulted. Death under these circumstances is to be attributed to shock arising from the injury inflicted by the knife, and not to chloroform, for it is more than probable the very same event would have happened even although chloroform had not been administered.”

“I should be sorry,” says Mr. B., “if it were supposed that shock from surgical injury is more likely to occur during anæsthesia than when the patient is perfectly sensible. I believe the contrary much more frequently obtains; and of this I think we have abundant proof in the comparatively few cases of death upon the operating-table of late years, compared with a period before the introduction of chloroform. Moreover, it must be familiar to all, that many

cases can now be safely conducted through capital operations, that formerly would have been deemed unable to bear any surgical interference.

"Before quitting this subject, I must mention a case recorded by a most careful and accurate observer, my friend and former instructor Mr. Paget, of which he remarks: 'It was very observable that the ill effect of chloroform was exercised on the heart more than, and earlier than, on the muscles of respiration.' A man labouring under tetanus inhaled chloroform, and 'was brought under its full influence. I was trying to open his mouth, but the face was still fixed and white; still trying, we saw him become extremely pale, and then bluish about his lips and nose, then he began to breathe heavily and frothed at the mouth, and his pulse, which had been irregular during the inhalation of the chloroform suddenly stopped; his heart ceased to beat, and in a few seconds more he ceased to breathe, became motionless, with his limbs flaccid. He was to all appearance dead, and thus he remained for about a minute and a half, when again his heart began to act, blood returned to his face, and his pulse again became full, when he began to breathe again, and presently he breathed freely.' Such a case, recorded by so trustworthy and accurate an observer, might go far to upset all the doctrines I have been endeavouring to maintain with regard to the action of chloroform; and although I do not attempt to explain the phenomena, I would desire to draw attention to two points in the history, which I think, if rightly considered, will deprive the case of much of its apparent importance. In the first place, then, the patient was suffering at the time from tetanus, a disease characterized by the most violent spasmodic contraction of the voluntary muscles, and sometimes, there is good reason to believe, of the involuntary also; and in the second place, let it be remarked that the pulse stopped suddenly at the time Mr. Paget was trying to force open the mouth.

"If we admit that shock from mechanical injury may sometimes take place during the anæsthetic condition, the importance of always insisting on the horizontal position during the performance of operations while in this state will be evident; for then, if shock, and its consequence syncope, should occur, the danger of its proving fatal will be greatly lessened. But while, for my own part, I feel tolerably confident that syncope, and even fatal syncope, is sometimes produced under the circumstances I have mentioned, I fully acknowledge that, before the fact can be established, more observations must be made, more cases of death accurately observed, and the entire subject more fully and carefully investigated."—*Monthly Journ. Med. Sci.* Sept. 1853.

73. *Tartrate of Antimony*.—Edinburgh Physiological Society, February 5, 1853. Dr. HALDANE gave the result of some experiments on the urine of a horse, to which large doses of tartrate of antimony had been administered. It was a remarkable fact that doses of an ounce or even larger quantities of tartar-emetic could be administered to the horse for a length of time without producing any effect whatever. In the urine of a horse so treated, Dr. H. had by careful analysis detected antimony, but only in very minute quantity.—*Monthly Journal of Medical Science*, February, 1853. T. R. B.

74. *Mineral Constituents of the Human Body*. *Arsenic*.—Devergie and Orfila believed that they had found arsenic in all animal bones, and hence that it should be regarded as an integral constituent of the animal organism. Subsequent investigations have, however, shown that there must have been some fallacy in the method of analysis pursued by these chemists, and that this view is altogether erroneous.

When positive experiments seemed to show that arsenic existed in the bones, chemists thought they had found an explanation of the apparent fact in the circumstance that phosphorus and arsenic are so frequently associated together; if the discovery of Walchner and Shafhault, that the sediment of most chalybeate waters contain arsenic, had then been known, they would doubtless have been regarded as strong additional proof of the presence of arsenic in the animal organism.

Arsenic acts in so noxious a manner on the animal organism, even in the

smallest doses (as we see from experiments with animals), that nature actively eliminates this deleterious substance as rapidly as possible from the body.

Meurer has made experiments on horses (animals which, as is well known, can bear large doses of arsenic), and Von Bibra on rabbits, from whence it appears that most of the arsenic is carried off with the solid excrements. Both observers also found the poison in the urine in no inconsiderable quantity. Of the solid parts of the animal body, the excreting organs, viz. the liver and kidneys, are those in which most arsenic is found; it has, however, also been detected in the heart, lungs, brain, and muscles. Some of these results are confirmed by the experiments of Duflos and Hirsch.

Schnedermann and Knop could detect no arsenic in the bones of a pig which had lived for three quarters of a year in the neighbourhood of the silver works of Andreasberg, where cattle and poultry do not thrive in consequence of the evolution of arsenical vapours.—*Lehmann's Physiological Chemistry*, vol. i. p. 449. Translated by Dr. GEORGE E. DAY. Cavendish Society Publications.

T. R. B.

75. *Mineral Constituents in the Human Body. Copper and Lead.*—Both these metals have been found in very minute quantity in the healthy body by Devergie, Lefortier, Orfila, Dechamps, and Millon, and were regarded by these chemists as integral constituents of all the soft parts, as well as of the blood; but it is only recently that any very decisive experiments on this subject have been instituted, and they, at all events, prove beyond a doubt that copper exists in the blood of some of the lower animals, and in the bile of the ox and man.

Millon believed that he had found them in the blood, but Melsens has brought forward reasons and even direct experiments against this view. Since, however, the presence of copper in the bile of man and the ox has been determined with certainty, the blood must give traces of this metal even though they be almost inappreciable. Moreover, E. Harless has found copper in the blood and more particularly in the liver of some of the lower animals, viz. the cephalopoda, ascidia, and mollusca. This observer found copper in the liver of *helix pomatia*; Von Bibra found it in the liver of cancer pagyurus, acanthias, and Zeus, and observed that it stood in an inverse ratio to the iron. Copper was originally found in the gall and bile stones by Bertozzi, and subsequently by Heller, Gorup Besanez, Bramson, and Orfila. I have been equally unsuccessful in demonstrating the presence of copper, either in the human liver or the liver of the frog; in the latter case, my experiment was made on 250 livers; and I have also failed in obtaining any indication of copper or lead in the blood, although I followed Millon's instructions.

There can be no doubt that the small quantities of copper which have been actually found in the fluids of the higher animals are only to be regarded as incidental constituents, while the experiments of Harless seem to indicate that, in the lower animals, the copper stands in an essential relation to the blood-corpuscles.

All the investigations which have hitherto been made seem to indicate the liver as the organ in which deleterious substances, and especially those of a metallic nature, as, for instance, arsenic, lead, antimony, bismuth, &c., are accumulated in order that they may gradually be eliminated with the bile. Hence, even if copper were constantly found in the blood or in the bile, it would afford no reason why we should regard this metal as an integral constituent of those fluids.

As copper has not only been found in many mineral waters (as, for instance, by Will, Buchner, Keller, and Fischer), but often in plants, and even in corn (Girardin), there is no difficulty in accounting for its presence in small quantities in the organisms of the higher animals.—*Lehmann's Physiological Chemistry*.

T. R. B.

76. *Hydrocyanic Acid.*—This acid never occurs preformed in the animal organism; even in the most varied of the metamorphoses and decompositions which occur during disease, we never meet with either the free acid or a metallic cyanide. This is readily accounted for when we recollect that hydrocyanic

acid, cyanogen, and the metallic cyanides are only produced from nitrogenous substances at a high degree of temperature. But in spite of this, certain physiological chemists have shown no unwillingness to assume that hydrocyanic acid, either in congregation or in combinations, exists preformed in histogenetic substances, or to avail themselves of its formation in the explanation of various chemico-vital processes; in short, to make it take a part in the equations by which they pretend to explain the different stages in the metamorphosis of the animal tissues. We only mention it here, inasmuch as it belongs to the bodies which are produced during the artificial decomposition of animal substances; such, for example, as acetic, valerianic, and ceanthyllic acids; we refer to the decomposition of hippuric acid by mere heat, and to the decomposition of histogenetic substances by bichromate of potash or binocide of manganese and sulphuric acid.—*Lehmann's Physiological Chemistry.* T. R. B.

77. *Poisoning by Atropia applied to the Conjunctiva.*—Hospital Saint Antoine. Service of Dr. CHASSAIGNAC. Thomas Halkering entered the hospital in August last with a double cataract complicated with adhesion of the iris to the crystalline. On the 31st of August, in order fully to examine the condition of the eye, there was poured in its side three or four drops of a solution made with 5 centigrammes of atropine (0.7770th of a grain) in 30 grammes (a little more than an ounce and a half) of water acidulated with acetic acid.

In half an hour vertigo occurred with wanderings of vision. In three-quarters of an hour all the symptoms of poisoning with belladonna were present, flushed face, enormously dilated pupils, and incessant hallucinations. The patient drew his coverings over him, and attempted to seize objects that he saw in the air. On attempting to rise, his legs failed under him, and he could not take two steps without being assisted. His pulse was 120 and full.

In the evening he became more calm, but the bladder was distended, and he was unable to empty it, so that the catheter had to be used.

During the night the delirium was so violent that the strait-jacket was employed.

On the morning of the 1st of September he was tranquil, and answered questions put to him. The tongue was moist, and there was much less appearance of congestion. Stupor and quickness of pulse, however, remained. He rested extremely well during the night, but during the day following hallucinations still recurred with a confusion of ideas; the pupils were still dilated. He urinated freely.

In this way all the unpleasant symptoms gradually disappeared, but it was four days before he perfectly recovered. He had lost all recollection of his illness except his delirium and its accompaniments.—*Gazette des Hôpitaux*, January 18, 1853. T. R. B.

78. *Presence of Antimony in the Organs of the Body.*—Some discussion occurred at a late meeting of the Academy, relative to the experiments of MM. Millon and Laversan on this subject. A case occurring in the service of M. MARCHAL (de Calvi), at Val de Grace, has a bearing on the matter.

A man very weak, labouring under double pneumonia, had been treated on the Rasonen system, with large doses of tartar-emetic, and died on the fifteenth day (eight days after having ceased taking the same). Portions of the liver, kidneys, brain, and blood were submitted to experiment in large receivers. To each was added pure and fuming muriatic acid in the proportion of about one half the weight of the organic matter. The mixture was heated gently in a sand-bath, but not to boiling, and a few hours after same quantity of chlorate of potash was added. Soon after, the materials were filtered, and the substances remaining on the filter were also washed with distilled water.

A plate of tin immersed in the different liquids was soon covered with a black pulverulent deposit, which was antimony; after some hours, this plate was plunged into pure muriatic acid, and the next day the black deposit was dissolved and at the bottom of the vessels. The result was that: 1. The liver furnished a considerable quantity. 2. The kidneys a less one. 3. The blood contained it also, but in very small amount. 4. It was also present in the

brain, but in still less proportion than even in the blood.—*Gazette des Hôpitaux*, February 19, 1853. T. R. B.

79. *Poisoning by Aconite*.—An inquest was held at Bristol, January 15, 1853, to inquire into the death of Emma Forty, an inmate of the Roman Catholic Convent of the Good Shepherd, situated at Arnos Vale, near that city. Deceased had, it appeared, on Monday the 10th administered to her by mistake, by the sister attendant, a deadly poison instead of the medicine prescribed for her, which resulted in her death five hours afterwards. It appeared from the evidence that the deceased was labouring under tape-worm, for which she was ordered, by the medical adviser of the convent, decoction of pomegranate bark and quinia. On going to the dispensary, she took the wrong bottle, and gave, instead of the decoction, a drachm of Fleming's tincture of aconite. Verdict accordingly.—*Medical Times and Gazette*, January 22, 1853. T. R. B.

80. *Hydrosulphocyanic Acid*.—(The history and presence of the acid become interesting, from the fact that some tests of it produce identical results when applied to meconic acid.) This acid does not occur in a free state, but only as sulphocyanide of sodium or potassium. It was discovered by Treviranus in the saliva, and has as yet been discovered in no other fluids. Treviranus named it hæmatic acid; and because he found that it formed blood-red solutions with the persalts of iron, he attributed the colour of the blood to sulphocyanide of iron.

For a very long time it has been disputed whether the ingredients in the saliva, which give rise to this red colour with the persalts of iron, is actually sulphocyanogen. There is scarcely any subject in the whole domain of zochemistry in which so many experiments have been made with such contradictory results. We believe, however, that no one who repeats the experiments of Pettenkofer can entertain a doubt regarding the presence of sulphocyanogen in the saliva. Pettenkofer especially directs attention to two tests which he discovered for hydrosulphocyanic acid. Solutions of the acetate and formate of peroxide of iron are perfectly decolorized on boiling with alkaline chlorides, while this treatment has no apparent effect on sulphocyanide of iron; farther, it is known that the persalts of iron do not decompose ferridecyanide of potassium; but if we heat a solution of sulphocyanide of iron, hydrocyanic acid is developed, and there is a precipitate of Prussian blue. Pettenkofer applied this treatment to the alcoholic extract of the saliva, and thus ascertained the presence of sulphocyanogen. Other chemists had previously made use of a test that had been discovered for the sulphocyanides, viz. a mixture of two solutions of sulphate of protoxide of iron and sulphate of oxide of copper (when subsulphocyanide of copper is precipitated), with the view of detecting this substance in the saliva. The alcoholic extract of saliva is free from sulphuric acid (for the sulphates are insoluble in alcohol); hence, Pettenkofer thought that he might make a quantitative demonstration of the sulphocyanogen in the saliva, by oxidizing the alcoholic extract with chlorate of potash and hydrochloric acid, and precipitating the sulphuric acid that was formed by chloride of barium.

Sulphocyanogen is almost always in human saliva; it is, however, occasionally absent without any apparent physiological or pathological reason. It appears to be wanting in the secretion during salivation from any cause; at least, I could never detect it during the ptyalism following the use of mercury or iodine, or occurring in the course of typhus or other diseases.

Sulphocyanogen occurs also in the saliva of the dog and the sheep. I have examined the saliva of four horses without detecting any traces of it. Wright, however, asserts that it occurs in the saliva of that animal.

Considering the extremely small quantity in which it occurs, and that it is often absent without any apparent bad consequence, it seems hardly probable that the alkaline sulphocyanides take any definite part in the process of digestion.

I have noticed several healthy, vigorous young men, whose saliva contained no sulphocyanogen, and yet who enjoyed the best digestion.

It would be very easy to explain, by chemical formula, how sulphocyanogen might be formed from the histogenetic substances; but, unfortunately, we as yet possess no facts to confirm us in the establishment of any particular chemical equation; it is better, therefore, frankly to confess that we know absolutely nothing regarding the place or the mode in which sulphocyanogen is formed in the animal organism.—*Lehmann's Physiological Chemistry*, vol. i.

T. R. B.

81. *Phellandrium Aquaticum*.—The synonyme of this is *Oenanthe phellandrium*. Lindley (*Flora Medica*) observes on it: "Poisonous like the last (*œnanthe crocata*), but in a less degree." Alfred Taylor (*On Poisons*) says the same, and adds: "The poisonous principle is unknown."

It now appears that this principle has been discovered by M. HUTET, an apothecary at Lyons. He names it *phellandrine*, and procures it from the seeds, which contain an average of two or three per cent. of it. Seven and a half grains of it injected into the veins of a dog produced, in a few instants, difficulty of respiration, nervous tremblings, and anxiety, lasting some hours. He, however, recovered; but two birds, into whose beaks the same dose was introduced, died in fifteen or twenty minutes.—*New York Journal of Pharmacy*, April, 1853, from *Bulletin de Thérapeutique*.

T. R. B.

82. *New Method of Analysis for the Detection of Organic Poisons*. By C. FLANDIN.—(The following is an extract from his *Memoir*):—

We are all aware of the facts respecting inorganic poisons. They are found (so to speak) everywhere—not only in the organs of the body where they have been taken or applied, whether internally or externally, but even in the most distant organs to which they have been carried by absorption. They are found not only in the dead body immediately after death, but ten years or more thereafter they can be traced in the remains of putrefaction and in the soil of graveyards.

Do the same facts hold as to organic poisons? In the concluding part of my *Treatise on Poisons*, now in the press, I have shown: 1. That poisons are substances that do not assimilate. 2. That they penetrate the organs by absorption. 3. That they act by *action de presence*.

If these principles be correct, it follows that all poisons may be found in those organs of the human body with which they have been placed in contact, or to which they have been carried by absorption.

A high authority in toxicology (Professor Christison) has made the following remark: "It may be laid down, therefore, as a general rule, that, in poisoning with opium, the medical jurist, by the *best methods of analysis* as yet known, will often fail in procuring satisfactory evidence, and sometimes fail to obtain any evidence at all of the existence of the poison in the contents of the stomach."

Now, these best methods of analysis, spoken of by Professor Christison, consist (not to go into too minute detail) in treating the suspected substances with acetic acid or alcohol, filtering the liquor, evaporating it to the consistence of an extract, dissolving this extract in pure or acidified water, decolorizing with animal charcoal, or precipitating (as the case may be) the animal matters with different reagents, as subacetate of lead, sulphydric acid, nitrate of silver, nut-galls, alcohol, &c., and when the active principle of opium (morphia) is to be sought for, to apply to it such tests as nitric acid and the perchloride of iron.

What are the results of these methods of analysis in cases of poisoning? Absolutely none. When an expert recently inquired of a celebrated French toxicologist, what mode he should pursue to detect vegetable poisons, the reply was, *all research is useless*. Yes, all research will be useless if we continue to pursue the present methods. They neither isolate the poison; they do not act on it directly by tests; and, therefore, they cannot prove its characteristic properties.

In examining this subject, particularly in reference to the nature of animal matters, I find they may be arranged into, 1. Proteic or albuminous matters.

2. Colouring matters. 3. Fatty matters. Now, the first (albuminous matters) are easily coagulable, and in this state become insoluble in water, alcohol, the acids. Coloured or colouring matters are readily modified by various acid or alkaline agents, as anhydrous lime or barytes, not to speak of the power of heat. Lastly, fatty matters are readily separated from all others by two grand agents in chemical analysis, alcohol and ethers.

When an inorganic matter is mixed with organic matters, nothing is more simple than to discover it. The organic matter is burnt off, or the inorganic is made to pass into a compound soluble state with charcoal, and is then extracted by water. The process of carbonization or incineration by sulphuric acid has been communicated by M. Danger and myself to the Academy, as the best mode of examining for mineral poisons.

If the body, from which it is desired to separate animal matters, be itself combustible or capable of being essentially modified by heat, what then are the means of separating it so as to ascertain its poisonous properties? We reply that, under 100 degrees, heat coagulates proteic matters, and which hence become insoluble in water, alcohol, and the acids—that anhydrous lime and barytes produce the same effect; and, besides, they greatly modify coloured or colouring matters—and that alcohol and ethers have a special affinity for fatty matters, and may respectively serve to isolate these, and also wax and the resins.

These facts being established, and experiment having shown that most of the organic principles are unalterable at 100 degrees, the following method is proposed to separate the organic alkaloid bases (as morphia, strychnia, brucia, &c.) from animal matters:—

Process.—Mix the matter in question in the proportion of 12 to the 100 of its weight of anhydrous lime or barytes, and rub them down together in a mortar; heat to perfect dryness, but not to exceed 100 degrees; treat the powdered matter, at least three times successively, with anhydrous boiling alcohol; and, on cooling, filter.

The liquid thus obtained is almost without colour; it contains the principle or principles sought for, and also fatty or resinous matters soluble in alcohol.

Distil, or evaporate slowly by alcohol, and treat the dry and cold residuum with alcohol so as to remove the fatty matters. If the principle sought for is insoluble in ether (as morphia, strychnia, brucia), it remains isolated in the liquid, and can be separated by filtration and even simple decantation. If it be soluble in ether, then the principle must be obtained by a special solvent of the organic bases, as for example acetic acid, and precipitate the base finally by ammonia. The chemist in charge must adapt his tests to the supposed substance. I submit only the general method.

I have mixed with 100 grains of animal matter a grain or even less of morphia, strychnia, and brucia; and, operating on the mixture in the manner described above, have collected from the mixture ponderable portions of the above poisonous principles. Again, I have added to the animal matters rough opium, laudanum, a decoction of nux vomica, false angustura, &c., and have isolated by this method the poisonous principle perfectly pure.

In order to satisfy myself of the satisfactory application of it to legal medicine, I have poisoned animals with the smallest required doses of opium, morphia, nux vomica, strychnia, false angustura, and brucia, and it was always possible to detect the poison in the contents of the stomach and intestines, and sometimes, indeed, in the organs to which it had been carried by absorption.

In a special experiment, I mixed two parts and a half of morphia with one hundred of meat, and abandoned the compound to putrefaction for two months. At the end of that time, using the method above described, I discovered a notable proportion of morphia.—*Comptes Rendus*, March 21, 1853. T. R. B.

83. *Method to remove the Poison from Toadstools.*—To do this, GERARD macerates one pound of them with two or three tablespoonfuls of wine vinegar for two hours, and then washes them well with water; after which he boils them in water from fifteen to thirty minutes, and again washes them, and prepares them for the table in the ordinary way. Gerard ate, in the presence of a

commission appointed by the French Government, one pound of the poisonous fungi, *amanita muscaria*, and upwards of two ounces of the *amanita bulbosa*, prepared in the manner described, without any evil consequences arising to his health.—From *Journal de Pharmacie*, in *Annals of Pharmacy*, October, 1852.

T. R. B.

84. *Poisoning by Aconite at Glasgow*.—In January, 1853, Mr. Brown, of the well-known firm of Brown & Love, feeling himself slightly unwell, called at one of the oldest and most respectable establishments in the city, where a medical student, a friend of his, was attending. This friend prepared for him a dose of tincture of aconite, and gave him twenty-five drops, the usual dose being from five to eight drops. Shortly after taking it, he felt its effects, and went away, but returned in about an hour. The head druggist was now in, and perceiving symptoms of approaching paralysis and other effects of the poison, put him in a cab, and sent for Dr. Laurie, who prescribed for him, but did not apprehend any immediate danger. Mr. Brown, however, became worse, and died at 10 o'clock, probably four hours after taking it. The student had read in some French book that twenty-five drops were a dose, but the British tincture is much the strongest.—*Pharmaceutical Transactions*, February, 1853.

T. R. B.

85. *New Test for Nitric Acid and the Nitrates*. By EDMUND W. DAY, of Dublin.—To the solid or liquid supposed to contain nitric acid, free or combined, add a few drops of a strong aqueous solution of ferrocyanide of potassium (yellow prussiate of potash), then some pure muriatic acid, mixing the ingredients well together both before and after the addition of the acid, and gradually raise the temperature of the mixture to about 160° Fahr., or in some cases it may be necessary to raise it a little higher. Let it cool, and then neutralize with carbonate of soda or potash, a slight excess of either being of no consequence. Filter, if there is much precipitate, and finally add to the fluid a drop or two of a solution of either sulphuret of ammonium, sodium, or potassium, when, if nitric acid were present, a fine purple or violet colour will be produced, which, however, is not permanent, but soon disappears.

In using this test, employ the following precautions: 1. Not to dilute the materials much, as the acid is required to be tolerably strong to produce the necessary reaction. The muriatic acid I employ is of specific gravity 1.15; if a much weaker acid is used, the results will not be satisfactory. 2. If the nitric acid or nitrate be in a very minute quantity, the mixture of it with the ferrocyanide and acid should be allowed to cool to the ordinary temperature before the alkaline carbonate is added; much excess of this last should be avoided, as, at a temperature of 100°, it begins to decompose the nitroprusside, on the formation of which the test depends.

As to its delicacy, I have detected by its means the nitric acid in the one-two-hundredth part of a grain of nitre; and with one-hundredth part of a grain the effect is very striking. Its efficacy, too, seems scarcely impaired by the presence of a number of substances whether of mineral, vegetable, or animal origin, as by it I readily detected the presence of nitric acid in mortars taken from old buildings, also where that acid or its salts were added in small quantity to soils, sulphuric or muriatic acid, tea, porter, milk, &c.

When no nitric acid is present, the mixture quickly becomes of a blue colour, but where that acid exists, it becomes first of a yellowish green, then of an olive or dark brown; but these indications alone are not sufficient to prove the presence or absence of nitric acid until afterwards confirmed by the action of an alkaline sulphuret. In heating the mixture, the temperature stated should be maintained for a few moments till it cease to acquire a darker shade, thereby indicating that all the nitroprusside is formed.—*London, E. and D. Philosophical Magazine*, May, 1853.

T. R. B.

86. *Examination of the Human Milk in Legal Medicine*.—Edinburgh Philosophical Society, March 19, 1853. Mr. MERCER ADAM called the attention of the Society to a new and important use of the microscope in legal medicine.

He remarked that there were few cases in medical jurisprudence more difficult to decide than whether, after a few weeks had elapsed, parturition had occurred recently or at a remote period. In such cases of doubt, where delivery is circumstantially believed to have recently occurred, but where all the physical signs may, with equal propriety, be reckoned evidences of this having been at a remote period, he believed that the detection of colostrum-corpuscles in the milk would at once decide the question, and almost with certainty prove the delivery to have been recent. In illustration of this, he cited the following case, which had recently come under his notice: The body of a newly-born child, much decomposed, was found in a moss in the south of Scotland. It was impossible to decide *secundum artem* whether it had been born alive; but it appeared to have been dead for four or five weeks. Proceedings were taken to discover the mother, and suspicion fell on a young woman who was supposed to have been secretly delivered about four or five weeks previously—that is, about the same date as the infant was thought to have been exposed. On being arrested on the charge of concealed pregnancy, she said she had had a child a year and a half before, which she had nursed until within three months of her apprehension, and firmly denied having been recently delivered. The two medical men, who were judicially appointed to examine her, came to different decisions, so equivocal were all the signs as to the period which had elapsed since her delivery. A microscopic examination of her milk was suggested, and it was found to abound in colostric globules. This decided the *questio vexata*, and showed parturition to have lately occurred. The girl, on being told that imposition no longer availed, confessed having recently given birth to a stillborn child, thereby confirming the accuracy of the revelations of the microscope. Mr. Adam considered that in such cases the microscope was likely to be as serviceable to the medical jurist as it was in the detection of blood-globules, spermatozoa, &c.—*Monthly Journal of Medical Science*, May, 1853. T. R. B.

87. *Opiantine*.—This alkaloid occurs in Egyptian opium, and which kind has less morphia in it than the other kinds of commercial opium.

It is separated from morphia by repeated crystallizations from alcohol. It is crystalline, inodorous, soluble in alcohol, and the solution has a strong, persistent, bitter taste, insoluble in water. It is not changed by concentrated sulphuric acid, but dissolves in nitric acid with a yellow colour. Opiantine forms crystalline double compounds both with chloride of platinum and corrosive sublimate.

Operation.—Opiantine is a narcotic, which, as far as has yet been ascertained, resembles morphia in its effects. Two cats of equal size and each six months old were operated upon. 0.145 gramme (just above a grain) of pure morphia was given to one, and the same of opianine to the other. The same effects were produced in both cases. In eight minutes, the pupil of both was so enlarged that scarcely anything was to be seen of the iris; the pupil was grass-green, and shone brightly; the eyes were motionless. At first they walked about without any fixed object, with the tail drawn in, and with foam hanging from the mouth; their steps afterwards became uncertain, they began to tremble, vomited, dragged their hind legs after them, began to cry pitifully, and laid themselves down on their bellies, which were much swollen and generally on their left side. They paid no attention to their names, although at other times they would come immediately on being called; were insensible to ammonia held to them, and took no part in the gambols of the other young cats which were jumping about them. At the end of an hour, the cat to which the morphia had been given had somewhat recovered herself, and ran quickly away when any one attempted to touch its belly, which was much swollen. At the expiration of a day, during which they had taken no nourishment, they both recovered.—*Dr. Hinterberger*, in *Chemical Gazette*, December 1, 1852. From a German Journal. T. R. B.

88. *Kakodyle of Valerianic Acid*. By Dr. O. W. GIBBS.—When valerianate of potash is distilled with an equal weight of arsenious acid, a heavy oily liquid passes over into the receivers, slightly yellowish in colour, and possessing a

penetrating and highly offensive odour of garlic. With a solution of chloride of mercury, this liquid gives a thick white precipitate, while the odour of garlic disappears, and is replaced by an agreeable aroma, like that of valerianate of oxide of amyle. The oily liquid gave off thick white vapours in the air, but did not inflame. Exposed for some time in the air in an imperfectly closed glass vessel, it became completely converted into a mass of large, brilliant, hard, four-sided prisms, which were nearly colourless, and after pressing with bibulous paper, free from smell. They had an acid reaction, and may have been the valerianic compound corresponding to kakodylic acid. These crystals were readily soluble in water. In an attempt to unite them with oxide of silver for the purpose of determining their constitution, they were completely decomposed. The oily liquid obtained by the distillation above mentioned was soluble in water, and appeared to reduce oxide of mercury to the metallic state. It will be seen that the reactions of the substance in question in all respects resemble those of the butyric kakodyle obtained by Wöhler, and exhibit much analogy to those of the acetic kakodyle of Bunsen. The offensiveness of these compounds to non-chemical noses belonging to persons occupied in the same building with the writer has hitherto prevented a farther investigation of this subject.—*Silliman's Journal*, vol. xv. New Series. T. R. B.

89. *The Dose of Tincture of Aconite.* (From a correspondent.)—In the last number of the *Pharmaceutical Journal*, you have very properly repeated your observations on the embarrassment and danger of there being several formulæ for the *tinctura aconiti*. But I would in addition call your attention to the very various and conflicting opinions as to the dose in which the tincture ordered by the London College should be administered. You say that the dose is from one to five drops, and that eight drops have been known to produce rather alarming effects. But Mr. Squire gives the dose as from seven to ten minims; Mr. J. Denham Smith, in his translation of the *Pharmacopœia*, in one place, from two to ten minims; in others, from one to six minims; while Dr. Nevins actually states it to be from three to fifteen minims, "or even more."—*Pharmaceutical Transactions*, March, 1853. T. R. B.

90. *Hypochlorite of Magnesia as an Antidote for Phosphorus.* By A. BECHERT.—Orfila has recommended the use of calcined magnesia as an antidote, but Duflos and Meurer have shown that it is ineffective. Duflos proposed the employment of a mixture of one part calcined magnesia and eight parts of chlorine water, that is to say, hyperchlorite of magnesia with free magnesia. Bechert has recently made some experiments to determine the value of this remedy in cases of poisoning with phosphorus, and obtained the most favourable results. A grain of phosphorus given to each of two rabbits caused the death of one in a few hours, and produced no effect on the other to which the antidote was administered.

With regard to the mode of action, Bechert is of opinion that it consists in the decomposition of the phosphuretted hydrogen generated in the stomach.—*Pharmaceutical Transactions*, June, 1853. T. R. B.

91. *Entrance and Exit of a Musket-ball.*—When a musket-ball passes fairly through the cavity of the chest, the orifice of entrance is round, depressed, dark-coloured, and more or less bloody in the first instance; the orifice of exit is generally more of a ragged slit or tear than a hole.—*Guthrie*, in *Lancet*, April 2, 1853. T. R. B.

92. *Wounds of the Diaphragm.*—Three cases confirm the fact I was the first to point out—that wounds of the diaphragm, whether in the muscular or the tendinous part, never unite, but remain with their edges separated, ready for the transmission between them of any of the loose viscera of the abdomen which may receive an impulse in that direction.—*Guthrie*, *Lancet*, April 16, 1853. T. R. B.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Abnormous Smallpox. By RICHARD MCSHERRY, M. D., Surgeon U. S. N.—Mr. A——, æt. 28, shipping-merchant, of this city, five weeks married, complained of serious indisposition (a violent cold, he said) on Monday, January 13, 1851. His bowels were torpid; stomach irritable; he had severe pains in head, back, and limbs. He took no remedy, but on Tuesday morning went as usual to his counting-room, until, finding himself ill, he returned to his house, and sent for his family physician. As there had been no known exposure to smallpox, that disease was not thought of until on the following day, when a suspicious eruption began to make its appearance, which was pronounced by the physician to be varioloid.

On Saturday morning, between three and four o'clock, I was called to see Mr. A——, in consultation with Dr. Hitch, the regular attendant, and Dr. R. S. Steuart, who is well known as one of the most eminent physicians of this city. We found the patient prostrate and restless, the pulse at the wrist imperceptible, the heart's action exceedingly feeble, and much obscured by the unusually clear, strong, respiratory sound in the adjacent lung. We learned that the prostration was first noticed about midnight, after moderate evacuation of the bowels. The previous day (Friday) he had appeared dejected and listless, though without apprehension as to the final result; he expressed himself as feeling better, or at least now free from pain.

His face remained free or nearly free from eruption, but on the arms, stomach, legs, and thighs, there were forming pustules in different stages of development, with a general duskiness of the surface.

We gave him immediately wine whey; and camphor and ammonia, repeated at short intervals, under which the pulse rose for a short time, so as to inspire a ray of hope that he might yet be restored. His mind remained perfectly clear, except for occasional momentary wanderings. On account of the duskiness of the skin, we added lemonade to the other remedies. At 10 o'clock, Dr. John Buckler was added to the consultation. The patient was evidently sinking, and about this time he excreted some bloody mucus from the mouth, and passed blood also from the bowels.

Dr. Buckler observed that his condition was like that of advanced purpura hemorrhagica; he, therefore, recommended frequent doses of turpentine and a solution of quinia with elix. vitriol, with continuance of the wine-whey, beef-tea, &c. The powers of life, however, had utterly failed; we gave these remedies, and finally brandy, but at a few minutes after twelve our patient sunk gently into the repose of death. This was on the fourth day from the first appearance of the eruption; the sixth from first symptoms of attack. As a case of SMALLPOX merely, that disease did not appear at all to have been sufficiently severe to have brought about so early and so fatal an issue; here was death by asthenia in a case of varioloid or variola, which had assumed a typhoid form. From the colour of the surface and the dejection of blood, that fluid had probably become disintegrated, and the life-force failed in the effort to develop the eruption. There had been no depletive treatment to bring about this low condition; the patient had taken only some mild mercur-

rial aperient with a little magnesia, and had used solution of morphia for relief of pain. The blood passed from the bowels was thrown off, no doubt, from the congested mucous membrane, while that from the mouth was from the fauces or perhaps from the right lung, where congestion or obstruction may be inferred from the undue respiration of the left side, which was noticed incidentally, while listening for the sounds of the heart. The decubitus was with an inclination to the right side, but no examination was made, as our only object at the time was to sustain the failing circulation.

Mr. A—— was a free liver, but of temperate habits except in the immoderate use of cigars, which during the last five weeks of his life he had, however, in a good measure abandoned. During these weeks he had been out very frequently at night, in company, and thus passed from heated rooms and midnight feasts to the cold night air, and this too during the incubation of his fatal disease. His occupation required frequent visits to the shipping in this port as well as in New York and Philadelphia; it is supposed that he took the infection on board of some vessel. He had been vaccinated in early childhood.

The body was not examined.

A case strikingly analogous to the above is recorded in the January (1852) No. of this Journal, by Dr. Squibb, of the Navy, in the *Report of the Cruise of the Cumberland Frigate*. A midshipman died of a typhoid form of fever. A general livid eruption appeared over the surface some thirty-six hours before death. There was passive hemorrhage from the bowels for several hours before death; and hemorrhage from leech-bites over the epigastrium could not be stopped even by the actual cautery. Four days after the death of this young officer, a variolous epidemic made its appearance, commencing with two passed midshipmen, and a drummer boy, who slept near the midshipmen's apartment, and near the door of the boatswain's room where the fatal case had been nursed.

"There was no difference of opinion," says Dr. Squibb, "among the medical officers, when the midshipman died, as to the typhoid or typhus character of the disease." In reviewing the case, however, and considering it in connection with the variolous epidemic which immediately followed, he came to the conclusion that the fatal case was variolous.

In both of the above cases, we may suppose there was, from remote causes, predisposition to typhoid disease, and that the variolous seizure came to an irregular and unhappy termination, not so much by its own virulence as by the predisposed condition of the patients. In both, the variolous fever became typhoid so early as to arrest or prevent the development and course of the variolous disease. Few cases, comparatively, of smallpox are fatal during the first week of the eruption; in the *Cyclopedia of Practical Medicine*, a table is presented from the records of the Smallpox Hospital, London, in which, out of 168 fatal cases, 32 deaths occurred during the first week, 99 during the second, 21 during the third, and sixteen during the fourth; and in examining into the causes of death at the different periods, it is stated that, "prior to the maturation of the pustules, that is, between the second and seventh days of the eruption, patients die of malignant fever; of that peculiar condition of the fluids and nervous system to which the name of *acute malignancy* may properly be given." Mr. A—— died on the fourth day of the eruption (5 out of 168 died on that day, according to the table) with the nervous prostration and diseased condition of the fluids which mark the malignant form of the disease; the early death of the other case, with the passive hemorrhage and livid surface, before any distinctive eruption made its appearance, shows the same malignancy, or, perhaps, the same adynamic, ataxic predisposition

which has no essential connection with variola, but which might have been developed as well by any attack of fever, *specific or non-specific*.

Vaccination and Smallpox, in regard to the Child-Bearing Woman, and the Fœtus in Utero. By RICHARD MCSHERRY, M. D., Surgeon U. S. N.

Dr. Steuart mentioned a case to me, which had come under his observation, where a woman eight months gone with child was vaccinated after exposure to the contagion of smallpox. She escaped the disease, but her child, born two weeks later, was covered with the confluent form, and died within an hour after its birth.

A singularly opposite case observed by Dr. Hennen (see affinities and prophylaxis of variola in the January (1852) No. of this Journal) is casually mentioned by Dr. Dendy. "A woman was delivered while suffering from confluent variola; the infant was vaccinated a few hours after birth. The mother died on the 11th day; the infant had true vaccine and lived." There is no uniformity as to the fœtus taking or escaping the disease in the mother; in the case just cited it had escaped altogether, or possibly *during incubation*; the vaccine disease superseded the slower attack of the variola. The late Dr. Smith, of this city, vaccine agent and physician, who probably performed more vaccinations than any other man in this country, assured Dr. Steuart that he had repeatedly inserted vaccine and variolous matters in the same person at the same time, and that the cowpox *uniformly* took first possession, and entirely superseded the smallpox. It is by no means uncommon for vaccination to exert a restraining influence over the more formidable disease when practised during its incubation, some interesting cases of which are recorded by Dr. Young in the October (1851) No. of this Journal. In the same number, a case is recorded by Dr. Gibbs, in which variolous inoculation was practised three days after a doubtful vaccination (the scab was several years old), but the vaccination held its vantage-ground, ran its course, and rendered the inoculation abortive.

The fœtus does not take necessarily the form of disease under which the mother labours; it may take the disease through her, after exposure, while she escapes entirely. Dr. Mead, it appears, was of opinion that, where a mother passed through an attack of variola without aborting, the child remained protected through life. The opinion may be fanciful, but the following case, related by Dr. Storer, to the Boston Society for Medical Improvement, gives it some support. Dr. S. attended a lady through a severe attack of variola in the eighth month of pregnancy. He dreaded miscarriage, which did not occur. Five weeks and four days from the appearance of the eruption he delivered her of a fine healthy child, upon which he expected to find some marks of the infection. It was, however, perfectly free from them. He afterwards vaccinated the child *twice* with perfect virus, not yet dried upon the quills, but both times unsuccessfully.

Case of Blighted Fœtus retained to Full Period. By THORNTON K. WOOSTER, M. D., of Winchester, Iowa.—On the 3d day of April, 1853, I was called to Mrs. S—, æt. 43, the mother of several children. She had been suffering from considerable pain in the uterus for several days, which had this morning become very severe. She now experienced severe labour-pains, according to her expression, although she did not believe herself pregnant. There was a discharge per vaginam of a fluid much resembling the menstrual fluid. On more particular inquiry I learned that nine months previously she had cohabited, and she positively declared that she had no connection with any man after that time. For some time after this connection she believed

that she had become pregnant; her abdomen began to enlarge; her menstrual discharge ceased; and everything indicated a state of pregnancy. Matters continued thus until the expiration of about four months, when, after some labourious exertion, she experienced severe and lancinating pain in the region of the uterus, which continued more or less for some days, and then entirely ceased.

From this time she noticed that her abdomen ceased to enlarge, and in fact did not seem to be so large as it was previously. She now believed that she had not been pregnant, but that the *turn of life* had come on at the time she had ceased to menstruate. She after this continued in her usual health, and had engaged in her ordinary occupation until the morning I was called in.

Upon a vaginal examination, I found the mouth of the uterus slightly dilated and low down. A violent pain came on, when a dead fœtus was expelled, of apparently four months, and shortly after the placenta; both in a state of putrescence. The length of the fœtus was five inches, and weight four ounces—the limbs were all developed—and it seemed a well-formed fœtus.

As the patient declared she had become connected with no man after the first cessation of her menstrual discharge, we have no reason to doubt that she conceived at that time; and that the death of the fœtus took place at the period she first experienced the pain in the uterus, four months after conception.

The dead fœtus was consequently retained for the term of five months in the uterus, and at the expiration of nine months after she first conceived, "which is the regular term of gestation," was expelled by a natural labour.

Chronological Table of Medical Writers. (Communicated by Professor C. D. MEIGS.)

SIR: The following chronological table of medical writers was copied out, many years ago, from the side notes in René Moreau's *Treatise de Sanguinis Missionem in Pleuritide*, 12mo., 1622. The arrangement of these chronological facts in tabular form renders them convenient for reference; and, as Moreau's opinions on medical chronology and biography are esteemed very reliable, he being frequently referred to as one of the highest authorities, I beg you to consider whether this table is worthy of a place in your valuable journal. Moreau's book is now an exceedingly rare one, and your American readers may perhaps feel obliged to you for laying the abstract before them. I, as a subscriber, should be glad to have it in print.

I am, very respectfully,

Your obed. serv't,

C. D. MEIGS.

DR. ISAAC HAYS.

GREEKS.	Podalirius, A. M.	2830	ROMANS.	Aurelius Cornelius Celsus,	20-30
	Asclepiades, B. C.	63		Octavius Horatianus	400
	Archigenes, A. D.	120			
	Galen,	circa, 140			
	Aretæus,	circa, 150			
	Stephanus Atheniensis	00	ARABIANS.	Evax, King of Arabia,	cir., 50
	Absyrtus,	circa, 330		Isaacus, Judæus,	660
	Oribasius,	circa, 330		Serapion,	742
	Aetius,	circa, 350		Avenzoar,	872
	Alexander Trallianus,	360		Rahses,	circa, 966
	Paulus Aegineta,	380		Avicenna,	982
	Nonus,	950		Messue,	1150
	Actuarius,	1100		Rabbi Moses,	circa, 1160
	Nicolaus Myrepsus,	1200		Averrhoes,	circa, 1170

Constantinus Africanus,	1080	Johan. Tagantius,	1544
Johannes Platerus,	1300	Leonardus Iacchinus,	1545
Petrus Aponensis, <i>obiit</i> ,	1305	Camillus Thornarius,	1545
Bernardus Gordon,	1305	Franciscus Cassanus,	1546
Nicolaus Florentinus, <i>obiit</i> ,	1312	Hieronymus Cardanus,	1547
Gentilis Fulginensis, <i>circa</i> ,	1312	Joan. Fernellius, <i>circa</i> ,	1548
Arnoldus Villanovanus,	1340	Amatus Lusitanus,	1549
Guido de Cauliaco,	1363	Gul. Rondeletius, <i>circa</i> ,	1550
Valescus de Tarento,	1380	Victor Trincavelli,	1551
Matheus de Gradibus,	1400	Hieron. Capivacci,	1552
Galeatias de St. Sophia,	1400	Joan. Crato,	1554
Jacobus de Partibus, <i>circa</i> ,	1423	Gabriel Fallopius,	1555
Johannes Arculanus,	1430	Franciscus Valesius, <i>circa</i> ,	1556
Hugo Senensis, <i>circa</i> ,	1438	Christoph. a Vega, <i>obiit</i> ,	1556
Marcus Gattinaria Ticinensis,	1440	Donat. Anton. ab Altomari, <i>cir.</i> ,	1558
Barthol. Montagnana,	1440	Johan. Argenterius,	1559
Antonius Guaynerus,	1440	Laurentius Imbertus,	1560
Johannes de Tornamira,	1450	Jac. Hollerius Stempanus,	1562
Joh. Mich. de Savonarola, {	1440	Johan. Jac. Wecherus,	1562
	ad	Thom. Roder. a Wiega, <i>circa</i> ,	1562
	1480	Johan. Corvinus,	1562
Sillanus de Nigris,	1490	Nic. Rorarius,	1563
Alex. Benedictus, <i>circa</i> ,	1500	Johan. Wierus,	1564
Clemens Clementinus,	1505	Conrad Gesner,	1564
Joannes de St. Aegidio, <i>circa</i> ,	1512	Thomas Erastus,	1564
Petrus Brissot, <i>circa</i> ,	1514	Nic. Monardis,	1565
Mathæus Curtius,	1526	Hieron. Mercurialis,	1565
Andreas Thurinus,	1526	Andreas Cæsalpinus,	1569
Cæsar Optatus,	1527	Vidus Vidius,	1570
Leonardus Fuchsius,	1528	Lud. Mercatus, 1570 ad	1600
Joannes Manardus, 1529-31		Johan. Guintherus,	1574
Hieremios Thriverus,	1532	Alex. Massaria,	1580
Symphorianus Campegius,	1532	Leonardus Botallus,	1582
Sebastianus Montius,	1532	Jacobus Douynetus,	1582
Benedictus Faventinus,	1534	Salceus Selanus, <i>circa</i> ,	1586
Gulielmus Puteanus,	1534	Lud Duretus, <i>circa</i> ,	1586
Donatus a Mutiis,	1536	Hercules Saxonia,	1590
Franciscus Emericus,	1537	Prosper Alpinus,	1591
Jul. Cæs. Scaliger,	1538	Joan. Riolanus,	1598
Andr. Vesalius,	1539	Andreas Laurentius,	1599
Johan. Bapt. Montanus,	1540	Joh. Heurnius,	1611
Martinus Akakia,	1541	Julius Guastavinus,	1614
Dionysius Fontanonus,	1542	Petrus Vascus Castellus,	1616
Ludovic Pannizza,	1543		

DOMESTIC SUMMARY.

Yellow Fever Epidemic of 1853 in New Orleans.—About the 26th of May last, the first case of yellow fever entered the Charity Hospital, and after death black vomit was found in the stomach. The first fever cases originated among the shipping along the Levee, in the Fourth District, from which point it extended rapidly through the adjacent portion of the town. A large population of un-acclimated persons, living in wooden huts, with floors and timbers soaked in

water, and half decayed, were seized with the disease in the most malignant form. For some time previously rain had fallen almost daily, and this, added to a hot, burning sun, seemed to give strength to the poison, and lent intensity to the disease. The streets in this vicinity, for the most part, were unpaved, or planked, and the culverts, gutters, etc., were filled with water, saturated with filth and decaying vegetable and animal matter. The crowded state of these huts and low wooden tenements, with their floors steeped in mud and water, is admirably calculated to generate and propagate the germ of a disease which had already been sown in their midst.

The habits of these people (being chiefly Irish and German labourers), notoriously negligent and filthy, and utterly indifferent to all those precautionary measures which a limited knowledge of the laws of hygiene should suggest, served only to add fuel to the conflagration which was destined to extend its ravages to every portion of our devoted city. Hence, for some time, the yellow fever confined its work of death within particular localities; but, by and by, gaining strength by what it fed upon, it began to travel to other and more distant points—to extend its arms, so to speak, in every direction, until it grasped the Four Districts within its deadly embrace. For some time the hope was entertained that those who paid proper regard to personal comfort and cleanliness, who dwelt in high, airy, and well-ventilated apartments, might escape the disease; but this proved a delusion. It soon became apparent that, as heretofore, the epidemic fever was no respecter of persons; the master was stricken down with the servant, the mistress with the maid, the proud and wealthy were brought to a level with the humble and needy. All who had not passed through some one of our epidemic seasons were exposed to attacks from the disease. As has been already mentioned, the fever made its appearance in the latter part of May, at least a month and a half earlier than usual, and, from the first case up to the present, it steadily increased almost daily, until the mortality per diem exceeded that produced by any epidemic known in the annals of our sanitary history. In recording the fearful ravages of the present epidemic, we must not forget that we have remained exempt from any such visitation since 1847; and during this time an immense population of unacclimated persons, both from Europe and the north-western part of our own country, have been accumulating in our city. The number of unacclimated persons in the city, at the breaking out of the epidemic, has been estimated at 30,000 souls; but many of these, it is fair to suppose, have left the city to escape the disease.

The type of the epidemic differs but little from that to which we have been subject in former years, and the belief that persons had died of the disease in six and eight hours from the moment of seizure can readily be explained by a better knowledge of the antecedent history of the case; for, on inquiry, it would generally be found that such individuals have had slight fever, and other symptoms of the epidemic, for two or three days previously to taking their bed and calling in medical aid. This surmise gains additional strength from the fact that the attack, in many instances, has been so insidious and destitute of alarming symptoms, that it is with difficulty such persons could be persuaded to submit to the usual restrictive treatment.

It is not strange, therefore, that such cases, which had been neglected for two or three days in the early and curable stage of attack, should terminate in fatal black vomit in a few hours after the physician is summoned to the bedside of his patient. So much for the apparent malignancy of the present epidemic. In making the foregoing explanation, we aim not to deny the existence of an occasional case of extreme severity; so severe, indeed, as to terminate in death in a few hours, in spite of the best efforts of the most skilful physician, and the most careful nursing.

In some instances, the system seems so thoroughly saturated with the poison of the disease, from the very moment of seizure, that no system of medication, as yet suggested, seems able to cope with and stay the fatal tendency of the fever. Every medical man, who has had much experience in the disease, must remember occasional instances of this kind.

The disease this season, though essentially the same in many of its most prominent features, exacts perhaps, on the part of physician and nurse, more care, diligence, and precaution, to terminate favourably, than usual in our epi-

demics. The slightest imprudence, either in diet, exposure, or excitement of any kind, is almost certain to superinduce a relapse, from which state it is usually very difficult to extricate the patient. Hence the great mortality among those who are not only ignorant of the peculiarities of the disease, but who are also unable, and in some instances unwilling, to pay for the requisite medical aid and attendance.

We refer to our table below, furnished by Dr. Simonds, the active Secretary of the Board of Health, for a full account of the deaths, and other particulars which have occurred since the epidemic broke out. By this it will be seen that yellow fever has done terrible execution among our unacclimated population, has produced a mortality unparalleled in the history of our ill-fated city. Even while penning these lines the fever is sweeping off over *two hundred per diem*; and, from present appearances, it is likely to continue its fearful ravages for perhaps weeks to come.

Our quondam associate, Dr. Fenner, will, in due time, give us a full and detailed history of this epidemic, as he did that of 1847, when the disease shall have run its course, and done its work of death.

Below we give the mortality produced by the epidemic, in the city of New Orleans, from the 28th May up to the 26th August, inclusive, for 1853.

The Epidemic.—Total number of deaths by yellow fever and other diseases, from May 28 till date:—

Week ending		Total.	Yellow Fever.		Other Diseases.	Not stated.
May	28	140—140	1—	1	139—139	...
June	4	157	1		156	...
"	11	154	4		150	...
"	18	147	7		140	...
"	25	167—625	9—	21	158—604	...
July	2	177	25		152	...
"	9	188	59		129	...
"	16	344	204		140	...
"	23	617	435		182	...
"	31	884—2210	704—1427		138—741	42
August	1	142	106		25	11
"	2	135	115		14	6
"	3	146	124		17	9
"	4	166	135		15	10
"	5	150	128		9	13
"	6	238	194		30	14
"	7	209—1186	165—967		40—150	4—69
"	8	219	187		23	9
"	9	201	166		21	14
"	10	230	193		33	4
"	11	233	192		13	18
"	12	207	180		25	2
"	13	214	179		22	13
"	14	232—1526	191—1288		26—163	16—75
"	15	217	187		24	6
"	16	193	163		19	11
"	17	219	191		21	7
"	18	219	188		22	9
"	19	234	203		15	16
"	20	224	184		29	11
"	21	269—1575	230—1346		24—154	15—75
"	22	283	239		29	15
"	23	258	220		24	14
"	24	222	188		23	11
"	25	218	186		19	13
"	26	193—1074	151—884		29—124	13—66
Total		8336	5934		2075	327
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N. B. The returns from St. Patrick's Cemetery, since the 31st July, not having been duly made, cannot be relied on, except for two weeks, when the books were resorted to by the Secretary, to enable him to make a weekly report.
—*New Orleans Medical and Surgical Journal*, Sept. 1853.

Quinia in Yellow Fever.—The editor of the *New Orleans Medical and Surgical Journal* states (No. for Sept. 1853) that his "experience during the present epidemic, with the sulphate of quinia, has convinced him that large doses of this salt cannot be relied on in the early stages of the attack.

"In the commencement of the epidemic, the advocates of large doses of quinia soon found that this article, when given in sedative doses, failed to accomplish a cure, although the febrile symptoms gradually gave way to its use.

"As the epidemic progressed, and its type and characteristic symptoms became better known, few, as far as we can learn, ventured to give large and repeated doses of this salt, except in particular instances. In our previous epidemic of yellow fever, the quinia practice succeeded best; but it is generally conceded, as far as we could ascertain, that this season it failed in a majority of cases to sustain its previous high reputation as a powerful curative agent. Hereafter, we shall have more to say on this subject."

Malformation successfully treated by Operation.—Dr. GEO. HAYWARD, of Boston, states (*Virginia Med. and Surg. Journ.* July, 1853) that he was desired to examine a female infant, three or four days old, in consequence of a malformation about the anus. On inspection, no external opening of the bowel could be discovered; but, in separating the labia, it was found that the urethra and vagina were perfect, and at two or three lines behind the vagina, there was a small orifice, sufficient to admit the large end of a probe, through which the feces were discharged.

"The child did not seem to suffer at all, and I heard nothing of it for more than a year, though I visited frequently the family to which it belonged. A few days after it was weaned, which was in January last, I was called to visit it, and was told that since the change in its diet it had apparently suffered very much in its efforts to discharge the contents of its bowels. These efforts were violent, almost constant when the child was awake, and afforded scarcely any relief. Since it had ceased nursing, it had become emaciated and very feeble, and had but little continuous or quiet sleep.

"After it was weaned, its diet consisted of milk and barley flour, and the feces, no doubt in consequence of the change in the food, had become of much greater consistence. The contents of the bowels were forced out by violent straining in small pieces, quite solid, about the size of a duck shot.

"On examining the parts, I found that the outlet of the bowel was but little if any larger than when I saw it before, and the large end of a probe did not pass very readily into it. The moment, however, that it was introduced, strong convulsive efforts followed, and it was evident that there was a great accumulation of fecal matter in the intestine, lying in the hollow of the sacrum.

"As it was apparent that the child would not live long in this way, I suggested the expediency of attempting to relieve it by an operation; though I confess that I was not very sanguine as to its success, nor did I give a very favourable prognosis to the parents as to the result. They consented, however, and on the following day, January 26, I performed it in the following way:—

"The child, having been rendered insensible by the inhalation of rectified sulphuric ether, was laid on a table. A director of the smallest size was introduced, though with difficulty, about an inch into the bowel, with the groove towards the sacrum. With a very narrow knife passed into the groove, I enlarged the external opening of the bowel sufficiently to admit my forefinger, and continued the incision upwards nearly to the end of the director; I then found that I could pass my finger readily into the bowel, which appeared to be of the usual size, till within about an inch of its outlet, where it had been contracted into a small canal, certainly not one-fourth as large as the bowel above.

"I did not consider it necessary to carry the incision any farther; nor did I

deem it safe; partly from the fear of hemorrhage, and in part from an apprehension that, if I did so, I should destroy the retentive power of the bowel, as sometimes happens from an operation for fistula in ano, where it has been found necessary to divide the parts high up.

"Lint was applied to the edges of the wound, and a cloth wet in cold water laid over it. There was no bleeding, except a slight one at the time; the child was evidently relieved, though the fecal matter was not discharged till castor-oil was administered on the following day.

"In two days after the operation, I introduced a moderate-sized rectum bougie, of a diameter as large as that of the bowel, and this has been done daily to the present time. In a very few days the wound healed, and the child has apparently suffered no inconvenience since. It has regular evacuations of a proper consistence, without the use of medicine. It has the entire control of the bowel, and has regained its health. It is now as vigorous and active as female children of that age usually are.

"I examined the parts very recently, four months after the operation. The anus can now be seen without separating the labia; but the perineum is covered with the same delicate mucous membrane that lines the vagina. Whether this will ever be productive of inconvenience, it is not perhaps easy to say; it is probable that this membrane may lose some of its sensibility, but there is no reason to suppose that it will acquire the properties of the ordinary covering of the body.

"This case must be regarded as a favourable one of malformation of this kind. In some that have been described, the opening into the vagina was as large as the diameter of the bowel, and there was no sphincter; while here, the lower part of the rectum was contracted into a very narrow canal, furnished with muscular power sufficient to prevent the involuntary discharge of the feces. Where there is no provision of this kind, the malformation must of course be one of the most disgusting character."

Strychnia in Lead Colic.—Dr. SWETT called the attention of the New York Medical and Surgical Society (Sept. 18, 1852) to a point in practice, which he brought before their notice a year or two ago—the use of strychnia in lead colic, in moderate doses, say the sixteenth part of a grain, three times a day. This has become the settled practice in the New York Hospital. Relief is usually experienced within forty-eight hours; the bowels act, and the disease subsides. He recalled to mind one case, however, which went four days before relief was afforded. He also related the case of a young Englishman, a clerk in a drug store, who was admitted to the hospital a few weeks ago, with what was at first considered as ordinary colic. After a time, however, the following facts were elicited. It appeared that, upon first opening the store in the morning, he had been in the constant habit of taking a glass of soda-water, which had remained over night in the lead pipe connected with the fountain. Strychnia was used in this case with great success. The doctor stated that, under the use of this drug, he has noticed twitching of the abdominal muscles before a passage from the bowels. He thinks that the disease is consequent upon paralysis of the intestines, and that strychnia, by acting upon the nerves, relieves it.

Dr. Bulkley remarked that he had employed the strychnia treatment in colica pictorum, and stated that since the first of August there had been five cases of the disease successfully treated with that remedy during his attendance in the New York Hospital. He remarked, as a curious fact, that in ordinary paralytic cases the exhibition of strychnia will not affect the bowels.

Dr. B. mentioned a second case which had occurred this summer, from drinking soda-water early in the morning, which had become impregnated with the lead poison by standing in the fountain over night. Also, an obscure case of this disease, now under treatment, in which the patient had suffered for seven or eight years. He was relieved by the use of strychnia, and is rapidly improving.—*New York Medical Times*, Aug. 1853.

Uva Ursi a Substitute for Ergot.—Dr. E. G. HARRIS, of Fayette, Ala., calls attention (*Southern Med. and Surg. Journ.* Sept. 1853) to uva ursi as a substitute for ergot, in producing uterine contraction. Since December last, he has given it in five cases.

Dr. H. makes an infusion of two ounces of uva ursi in a pint of boiling water, one-fourth to be given, as hot as it can be drunk, every ten or fifteen minutes, until it has the desired effect.

Cockle-Bur in Rima-Glottidis removed with Forceps.—Prof. DUGAS, of Augusta, Ga., records (*Southern Med. and Surg. Journ.* Aug. 1853) the following interesting case:—

“York, a negro boy, twelve years of age, belonging to Mr. —, of Columbia County, was engaged, in November last, in removing cockle-burs from the mane of a horse, and put one of them in his mouth. By a sudden inspiration, the bur was carried down his throat, and he immediately experienced some difficulty in breathing, attended with frequent coughing. Medical aid was invoked, and an emetic administered without relief. The boy continued in this state several days, and was then brought to this city. We found that he breathed and coughed as though affected with oedema-glottidis or with membranous croup; his voice was extinct, and he spoke in a whisper; on walking briskly, he suffered for want of breath; he pointed to the thyroid cartilage as the seat of soreness; had some arterial excitement; nothing abnormal heard on auscultating the lungs, but a whiz was perceived on placing the stethoscope upon the larynx. By the most careful ocular inspection of the pharynx, the bur could not be seen. The finger being, however, carried down below the epiglottis, would feel the bur rise up against its extremity whenever the larynx was elevated by an attempt at deglutition. The cockle-bur was evidently situated vertically, with one end within the laryngeal aperture, and so securely fixed, by means of its minute hooks, into the mucous membrane, that its position could not be changed by such delicate touches with the finger as I thought it prudent to make during the momentary contact alluded to. A pair of oesophageal forceps being at hand, I made, in vain, repeated attempts to seize the bur, until the patient became very much exhausted. The continual movements of the larynx presented an insuperable difficulty. He was then allowed to rest, and an emetic of ipecacuanha administered in the evening, in the hope that the bur might be dislodged during the efforts to vomit. This also failed, as it had done before.

“On the following morning (Nov. 8), I provided myself with a pair of small curved polypus forceps, and carrying the index-finger of the left hand down below the epiglottis, forcibly drew this upwards, and at the same time glided the finger still lower, until its extremity rested in contact with the bur. The forceps were now with the right hand carried along the finger, and the bur effectually seized and extracted, after but one failure.

“In looking over the standard surgical authorities, we find no allusion whatever to the method adopted in this case, to bring the finger in contact with the larynx, and to stay its movements during the introduction of the necessary instruments. Some of those who treat at all of the removal of bodies lodged in the rima-glottidis, recommend, in general terms, their extraction with forceps, if possible, and when this cannot be done, advise immediate recourse to tracheotomy. Others make no mention whatever of the use of forceps, but resort at once to the knife. We have not had the leisure to examine *all* the written authorities at hand, and would therefore simply lay the subject before the profession, who may judge of its value as well as its originality. It may be sometimes difficult or impossible, in adults, to introduce the finger sufficiently far below the epiglottis to draw this forwards effectually, and to carry the finger to the larynx at the same time that its movements are prevented. But in children this can very rarely be the case.”

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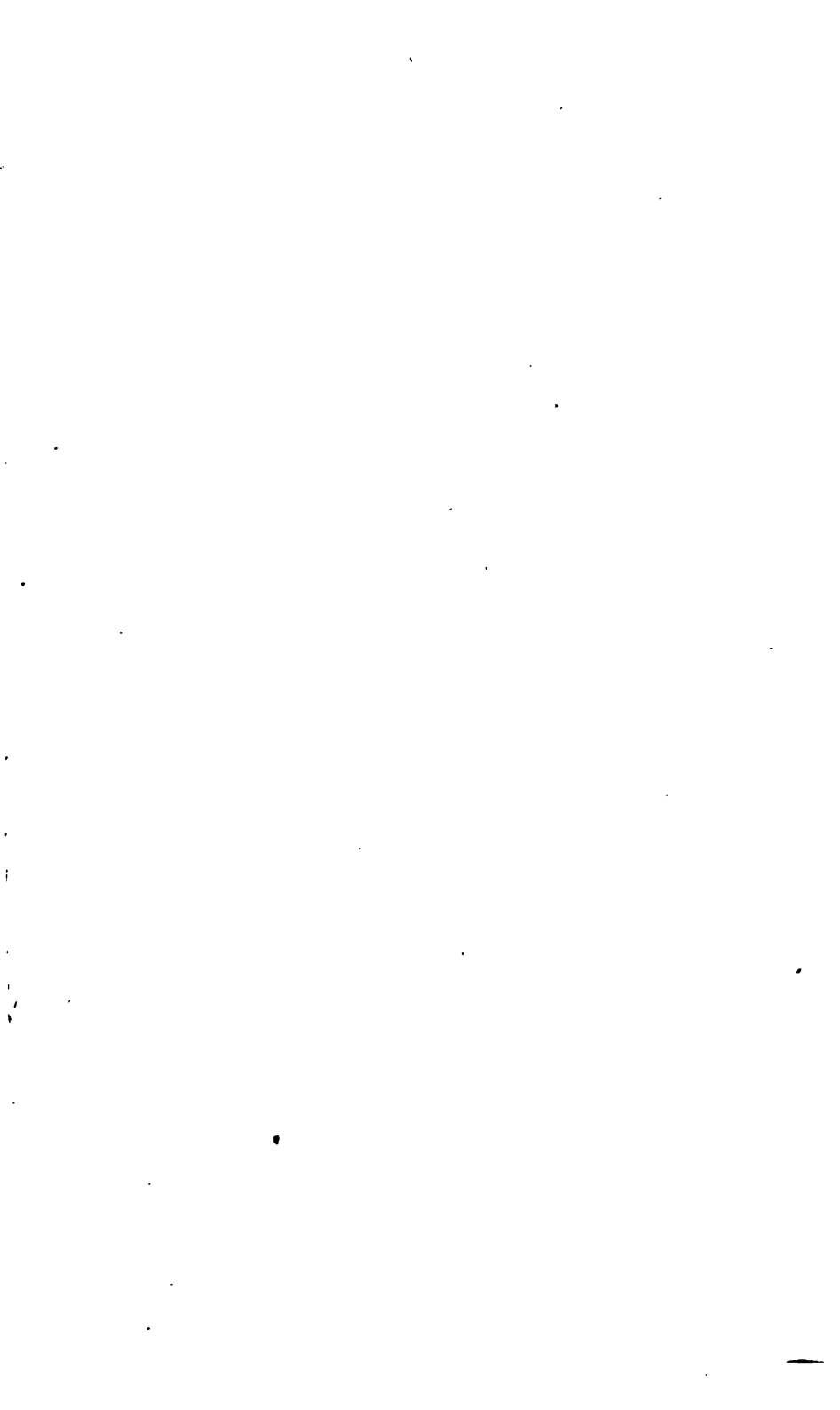
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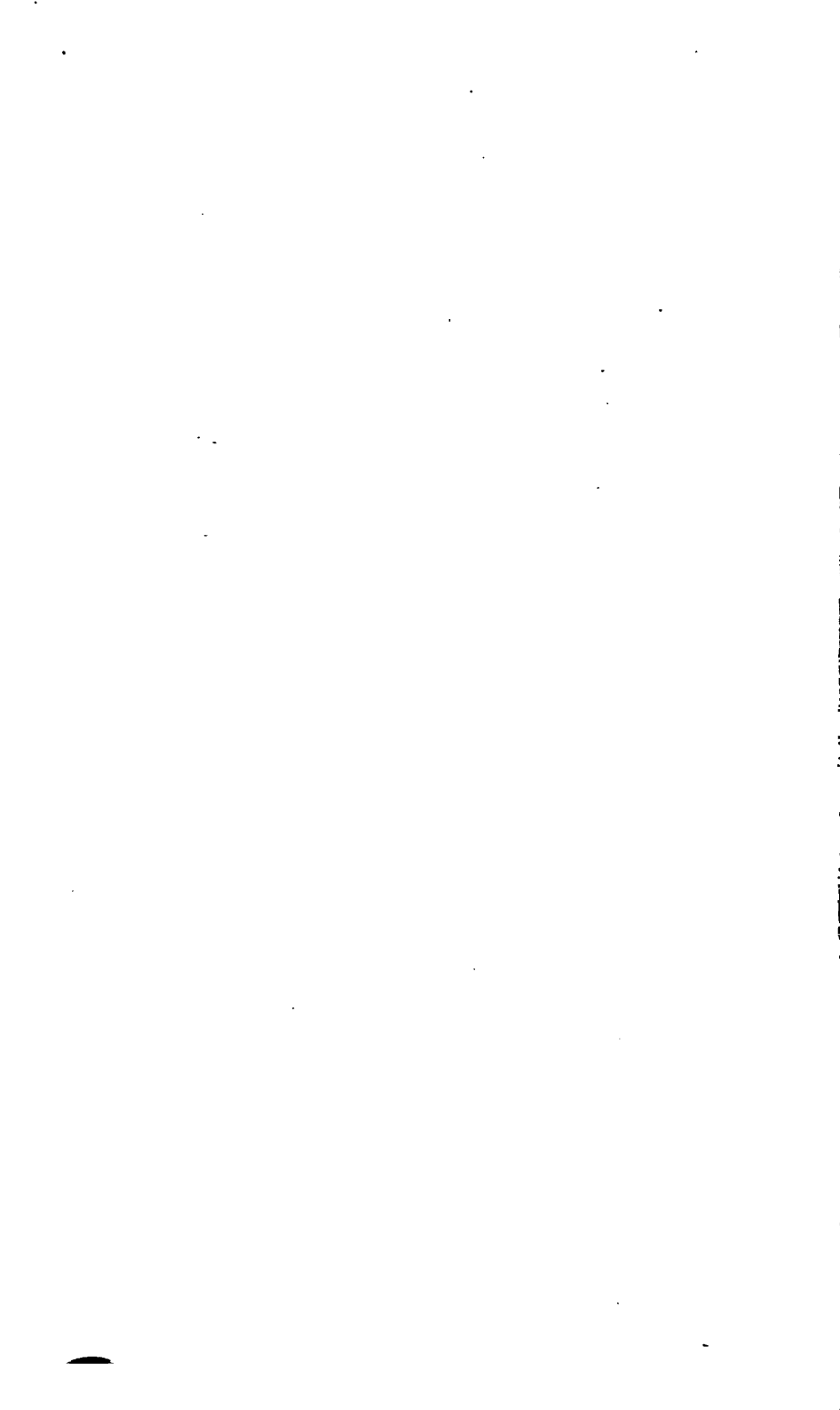
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